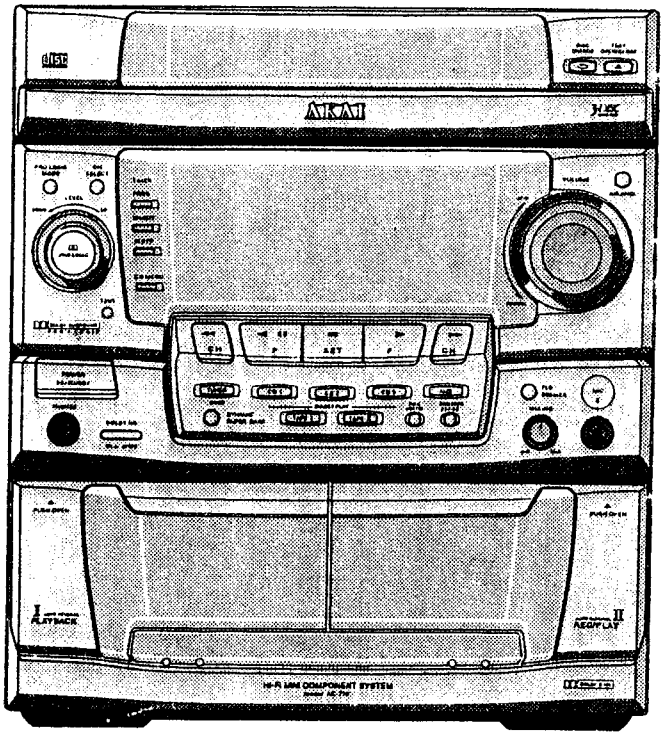
TX-510/710
(AC-510/513R/515K)
(AC-710/713R/715K)

AKAI SERVICE MANUAL



DOLBY B NR

COMPACT disc DIGITAL AUDIO

DOLBY SURROUND PRO • LOGIC

MINI STEREO COMPONENT SYSTEM

MODEL **AC-510/513R/515K**

MODEL **AC-710/713R/715K**

MODEL **SR-510/710**

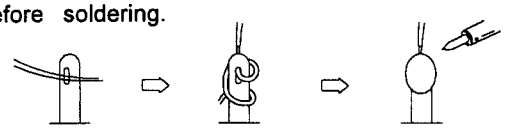
CONTENTS

SAFETY INSTRUCTIONS 2
INFORMATIONS 3
SPECIFICATIONS 4
CONTROLS 6
I. DISASSEMBLY 8
II. PRINCIPAL PARTS LOCATION 9
III. DISASSEMBLY OF MAIN COMPONENTS 11
IV. MECHANICAL ADJUSTMENT 16
V. ELECTRICAL ADJUSTMENT 17
VI. PARTS LIST 19
VII. ABBREVITIONS 35

SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol parts are critical for safety. Replace them only with parts whose numbers are specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selection switches, RF cables, noise-blocking capacitors, noise-blocking filters, etc.
3. Use specified internal Wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulating Tape
   2) PVC tubing
   3) Spacers (insulating barriers)
   4) Insulating sheets for transistors
   5) Plastic screws for fixing micro switches
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitor, etc.), wrap ends of wires securely about the terminals before soldering.



6. Make sure that wires do not contact heat generating parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)
7. Check if replaced wires do not contact sharply edged or pointed parts.
8. Also check areas surrounding repaired parts.
9. Make sure that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

MAKE YOUR CONTRIBUTION TO PROTECT THE ENVIRONMENT

Used batteries with the ISO symbol for recycling as well as small accumulators (rechargeable batteries), mini-batteries (cells) and starter batteries should not be thrown into the garbage can.
Please leave them at an appropriate depot.

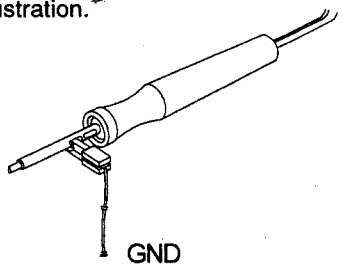
SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to check if exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts, (such as chassis, ground terminal, microphone jacks, signal input/output connectors, etc.) and the earth ground through a resister of 1500 ohm paralleled with a 0.15 μ F capacitor, under the unit's normal working condition.
The leakage-current should be less the 0.5mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch "ON" (if included). The resistance should be more than 2.2Mohms.

PRECAUTIONS IN REPAIRING

When repairing or adjusting the unit, please note the following points

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment. Make sure that there are no metal objects between the P.C board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs may be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustration.

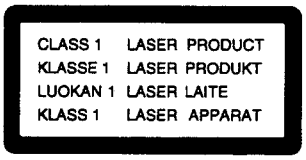


4. Do not loosen any screws in the pick-up block. Please refer to NOTE when replacing the pick up block.
5. To avoid hazardous invisible Laser Radiation, do not look at the Laser Beam (Objective lens) directly.
6. On model for some countries, laser warning labels are affixed on and inside of the unit as shown below. For your safety, read these labels carefully before repairing or adjusting the unit.

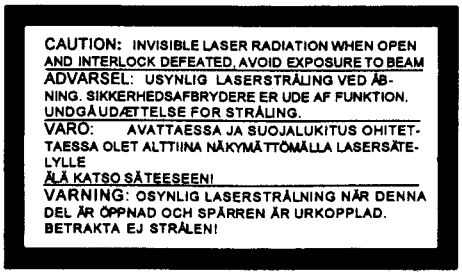
CAUTION

The use of controls or adjustments or the performance of procedures other than those specified herein may result in hazardous radiation.

[EUROPE, SCANDINAVIA, UK and AUSTRALIA]



Label affixed on the rear panel of the unit


CAUTION: INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK DEFEATED. AVOID EXPOSURE TO BEAM
ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING. SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDÆTTELSE FOR STRÅLING.
VARO: AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLA LASERSÄTELYLLE
ÄLÄ KATSO SÄTEESEEN!
VARNING: OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN!

Label affixed on the CD MECHA BLOCK

INFORMATION

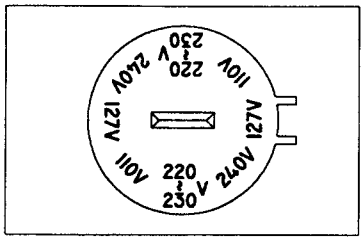
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbol	Principal Destination
A	USA
B	UK
E	Europe (except, UK)
S	Australia
V	Germany
U	Universal
Y*	Custom version

VOLTAGE CONVERSION(U Y Model only)

Before connecting the power cord, set the VOLTAGE SELECTOR located on the rear panel of the AC-515K/715K so that the correct voltage for your area is indicated.



[U5,U8, Y6, Y7]

TEST MODE

Various kind of test modes are installed in this unit's microcomputer in order to test them on the production line. Following test modes among the various test modes can be used for adjustment, operation check or maintenance. To terminate the test mode, simply press the "POWER ON/STANDBY " button or disconnect the AC power cord from the AC outlet.

1. DECK TEST MODE

This test mode can be used for tape speed adjustment as well as bias oscillator frequency adjustment in TAPE DECK section.

While pressing and holding the "TAPE II" and "►" (F) buttons, connect the AC power cord to AC outlet. The function turns to "TAPE I" and "DUBX1" as well as " I ►", "II ►" tape direction indicators on the FLD light when this mode is engaged.

2. DECK CLEANING MODE

This test mode can be used for cleaning of the TAPE DECK mechanism.

Because, this mode enables engaging of the playback, fast forward (FF), and rewind (RWD) modes without a cassette tape, it makes the cleaning (such as the capstan shaft, magnetic head, pinch roller etc.,) easier.

While pressing and holding the "TAPE I" and "►" (F) button, connect the AC power cord to the AC outlet. The "TAPE I", "I ►", "II ►" tape direction indicators on the FLD light when this mode is engaged.

SPECIFICATIONS

[Tuner Section]

Frequency range

FM ..... 87.5-108MHz(50KHz step)
MW ..... 530-1710KHz(U8)
531-1602KHz (except U8)
LW ..... 144-288KHz(1KHz step) (E1/E3/B1 only)
SW ..... 3.8-12.5MHz(5KHz step) (Y7 only)

USABLE SENSITIVITY

FM ..... 16.2dBf IHF,3%THD (except E1/E3/B1)
20.2dBf IHF,3%THD (E1/E3/B1)
MW 500uV/m
LW 800uV/m
SW 800uV/m

S/N Ratio(IHF)

FM ..... MONO 75dB, STEREO 65dB
MW 40dB
LW 30dB
SW 30dB
Stereo separation ..... 40dB(at 1KHz)

[AMPLIFIER Section]

Power output ..... (AC-510/513R/515K) 100W+100W(6ohms, 10%THD, EIAJ)
80W+80W (6ohms, 1%THD, DIN)
(AC-710/713R/715K) 130W+130W(6ohms, 10%THD, EIAJ)
100W+100W (6ohms, 1%THD, DIN)

Input sensitivity (AUX IN) 390mV/47KΩ

channel separation 64dB

Frequency response ..... 10Hz-100KHz(-3dB)

[DECK SECTION]

Track system ..... 4track, 2channel system
Frequency response ..... 40Hz-15KHz (Normal tape, +3dB/7dB)
40Hz-16KHz(Cro2 tape, +3dB/-7dB)
Wow & Flutter ..... 0.09% (WRMS), 0.15%(DIN)
S/N ratio ..... Dolby B 63dB (5KHz)
Dolby off 53dB (Cro2 tape)
Total harmonic distortion ..... less than 0.5%(normal tape at 315Hz)
Channel separation 43dB

[CD SECTION]

Pick up system ..... 3Beam Laser
Sampling frequency 44.1KHz
Error correction system ..... Cross interleave read solomon
Number of channels 2Channe
Frequency response 20Hz-20KHz
Wow & Flutter ..... Below measurable limits
S/N ratio 83dB
Total harmonic distortion ..... 0.035% (at 1KHz)
Channel separation ..... 73dB(at 1KHz)
Dynamic range ..... 82dB (at 1KHz)

[GENERAL]

Power requirement
E1/E3/B1/S1 ..... AC 220-230V/50Hz
U5/U8/Y6/Y7 ..... AC 110/127/220-230/240V, 50/60Hz
Power consumption 120W/AC-510/513R/515K, 200W/AC-710/713R/715K
Weight 8.7Kg/AC-510/513R/515K, 10.2Kg/AC-710/713R/715K

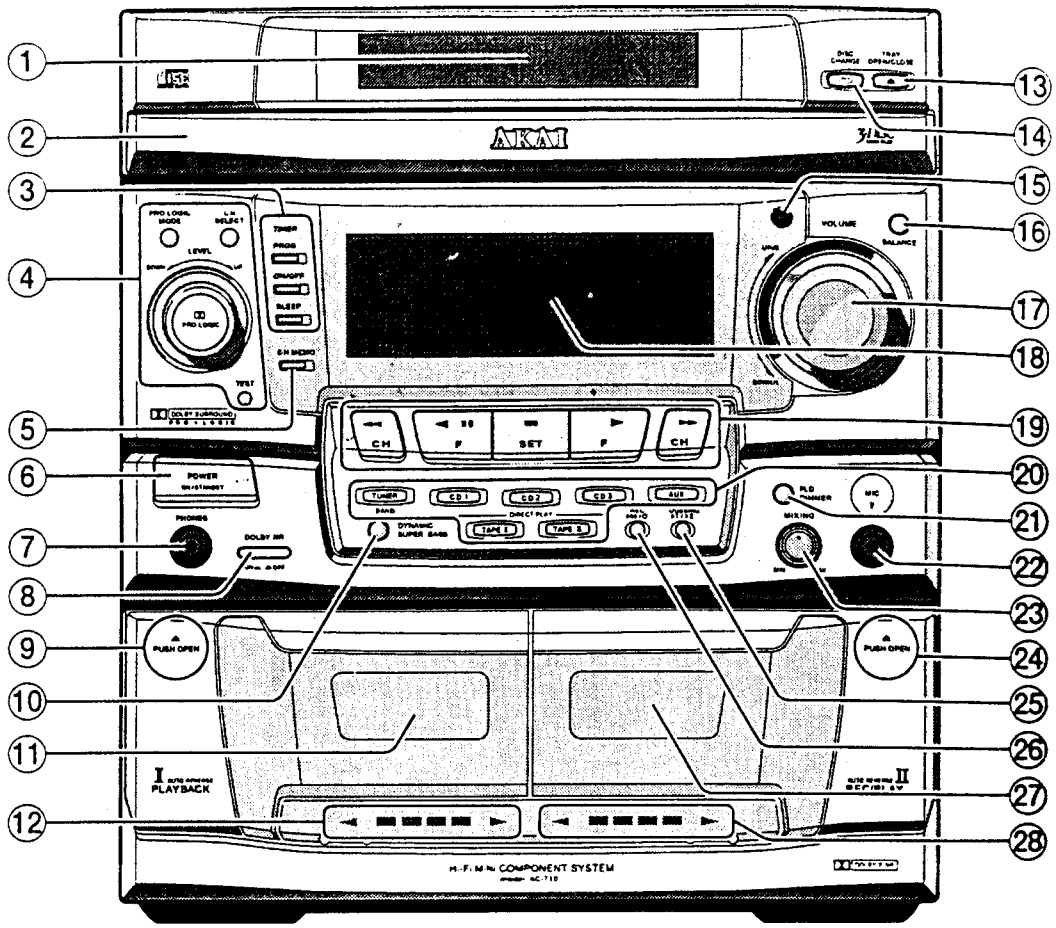
[SPEAKER SECTION]

ITEM	SR-510	SR-710
System Constructions	3-way 3-speakers	3-way 3-speakers
Woffer Unit	135mm Cone type	135mm Cone type
Midrange Unit	65mm Cone type	65mm Cone type
Tweeter Unit	50mm type (ambiance)	50mm type (ambiance)
System Impedance	6Ω	6Ω
Maxium Power Input	120w	160w
Sensitivity	more than 87dB/w/m	more than 87dB/w/m
Frequency Response	55Hz-20KHz	50Hz-20KHz
Harmonic Distortion	less than 3%	less than 3%
Enclosure Type	bass reflex type	bass reflex type
Units Layout	Center in line layout	Center in line layout
Dimensison	200(W)X347(H)X247(D)	200(w)X357(H)X277(D)
Net Weight	3.9Kg/pc	4.9Kg/pc

For improvement purposes, specifications and design are subject to change without notice.
Manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the DD symbol are trademarks of Dolby Laboratories Licensing Corporation.

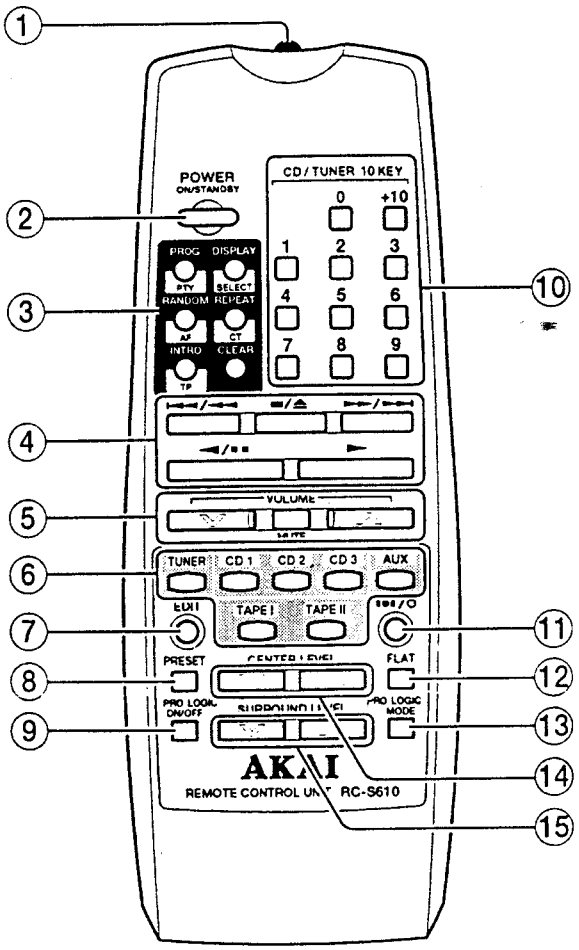
CONTROLS

A MAIN UNIT



1. PRO LOGIC FL display (AC-710/713R/715K)
2. Disc tray
3. TIMER operation buttons
4. Dolby PRO LOGIC mode indicators(AC-710/713R/715K)
5. CH MEMO button
6. POWER ON/STANDBY button
7. PHONES jack
8. DOLBYNR button
9. Tape deck I PUSH OPEN button
10. DYNAMIC SUPER BASS button
11. Tape deck I cassette compartment
12. Tape deck I direction indicator and transportation indicator
13. TRAY OPEN/CLOSE button
14. DISC CHANGE button
15. Remote sensor
16. BALANCE button
17. Volume control
18. System FL display
19. Multi-function buttons
20. Input source select buttons
21. Dimmer button (AC-510/513R/710/713R)
    KARAOKE button (AC-515K/715K)
22. MIC jack
23. Mixing control
24. Tape deck II PUSH OPEN button
25. DUBBINGx1/x2 button
26. REC button
27. Tape deck II cassette compartment
28. Tape deck II direction indicator and transportation indicator

B Remote Control



When using the remote control for operation, make sure that it is pointing to the remote sensor window on the main unit.

1. Transmitting window
2. POWER ON/STANDBY button
3. CD operation buttons/RDS buttons
   (The RDS function is only available on the AC-713R and AC-513R models)
4. Multi-function buttons
5. VOLUME buttons
6. Input source select buttons
7. EDIT button
8. PRESET button
9. PRO LOGIC ON/OFF button
10. CD/TUNER 11 KEY buttons
11. Rec/pause button
12. FLAT button
13. PRO LOGIC MODE button
14 CENTER LEVEL buttons
15. SURROUND LEVEL buttons

* The 9, 13, 14 and 15 buttons are not included on the RC-S510 remote control (for AC-510/513R/515K model operation).

Note:

The remote control cannot be used for some functions that require the combined pressing of two tape transportation buttons (intro scan or auto play for example). Please Use the Main unit's multi-function buttons for the operation of such functions.

I. DISASSEMBLY

1-1. REMOVE OF MAIN COVER

1) Remove the seven screws on back and six screws on both sides.
2) Remove the MAIN COVER

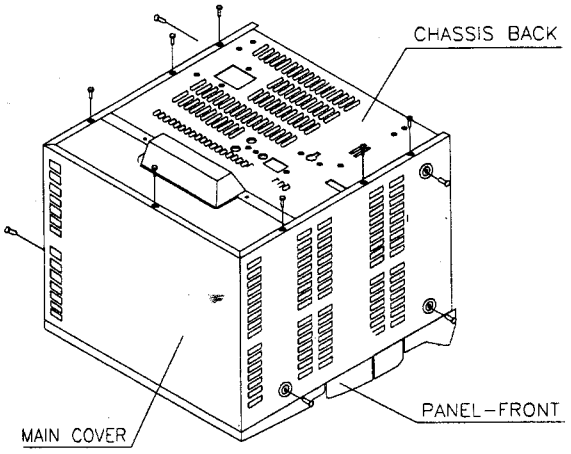


Fig. 1-1

1-2. REMOVE OF CD MECHA & FRONT PANEL

1) Remove the CD door
2) Remove the four screws (A) on both sides and disconnect three connectors and the flat cable from the TC-DK P.C.B.
3) Remove the CD player block
4) Remove the three screws (B) and two screws (C) on both sides.
5) Remove the FRONT PANEL

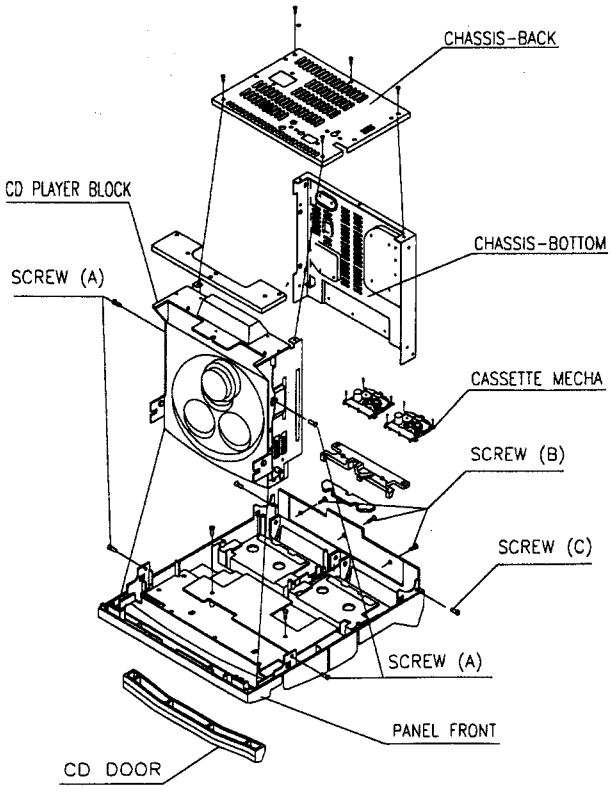


Fig. 1-2

II. PRINCIPAL PARTS LOCATION

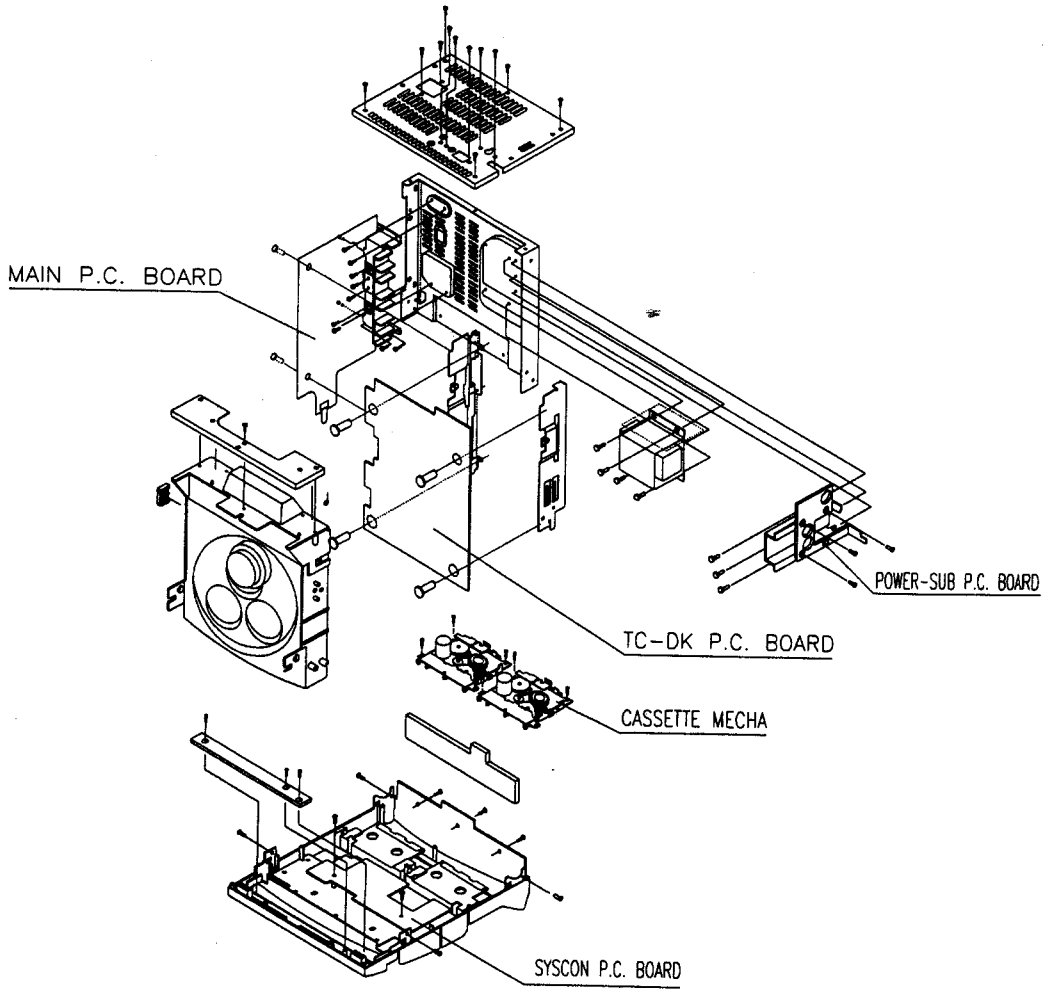


Fig. 2-1

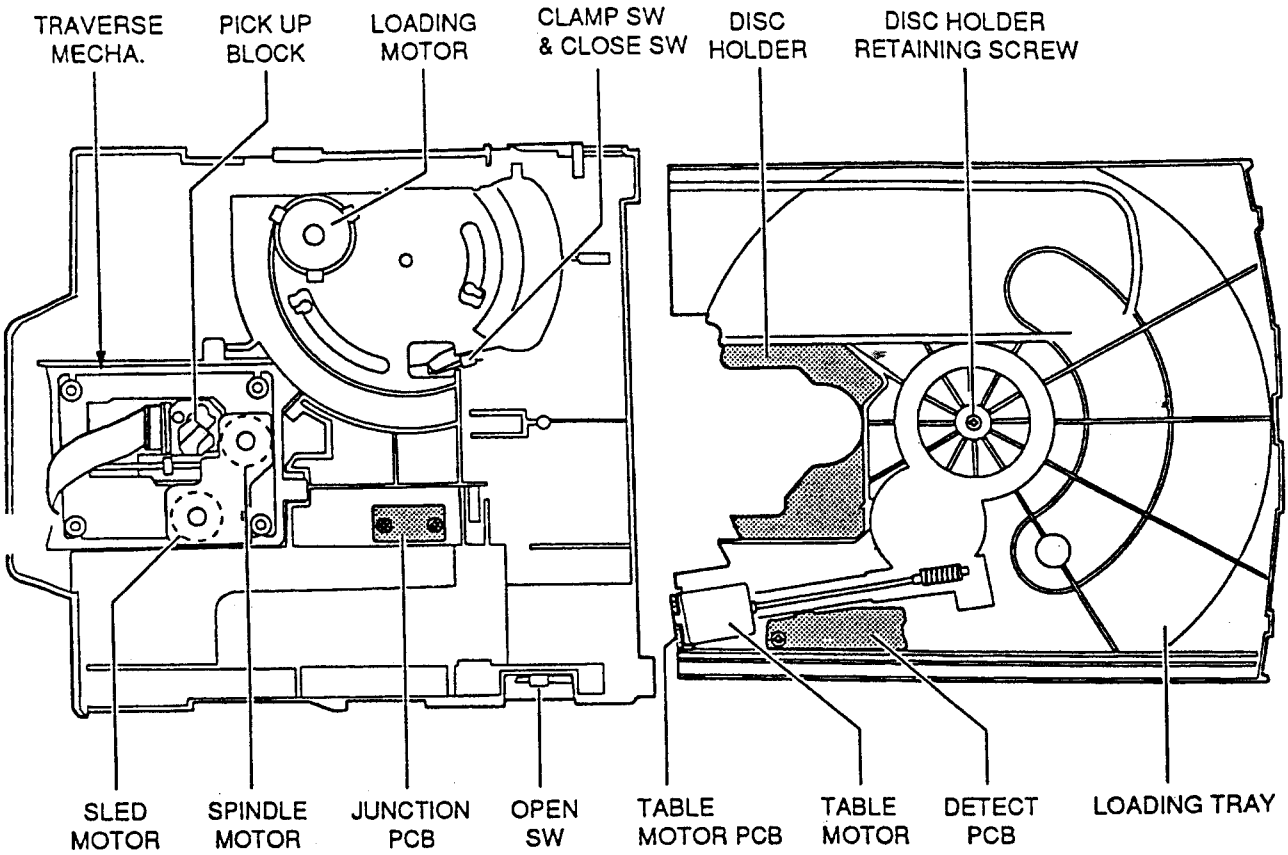


Fig. 2-2 CD PIAYER BLOCK

III. DISASSEMBLY OF THE MAIN COMPONENTS

3-1. CD PLAYER BLOCK

* Remove the CD PLAYER BLOCK before proceeding.

3-1-1. Removal of the TRAVERSE MECHA.

1) Remove the TRAVERSE COVER by releasing the two tabs in the direction of the arrow as shown in Fig. 3-1.

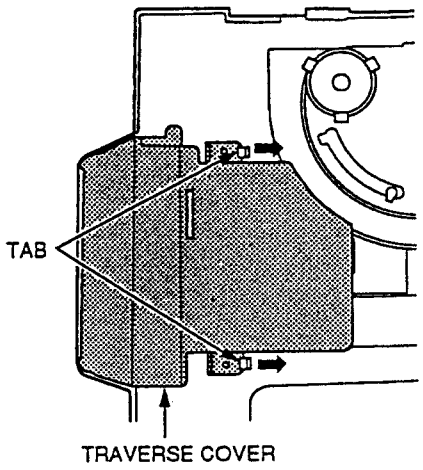


Fig. 3-1

2) Short the circuit on the PICK UP BLOCK with solder as shown in Fig. 3-2.

Note: To protect the laser diode from damage caused by high voltage static electricity, a part of the PCB on the PICK UP BLOCK has to be shorted before disconnecting the connectors. After replacement, be sure to connect the two connectors and then remove the solder of the shorted circuit before turning the power ON.

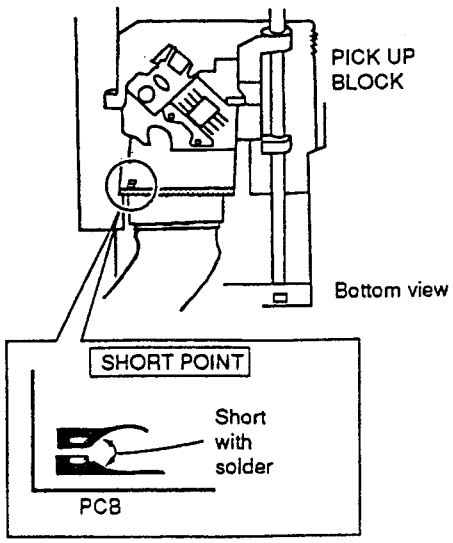


Fig. 3-2

3) Disconnect the two connectors carefully.

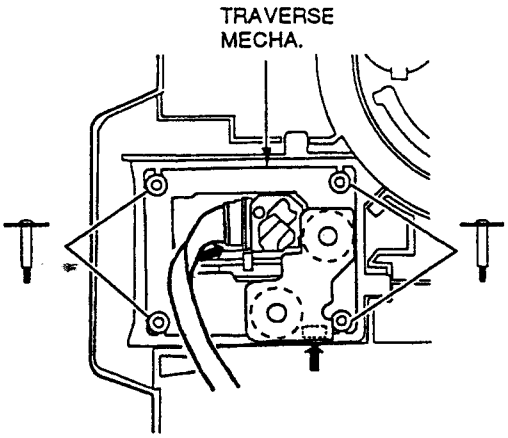


Fig. 3-3

4) Remove the four retaining screws, then remove the TRAVERSE MECHA.
5) Proceed in the reverse order for installation but never unsolder the shorted circuit before connecting the three connectors.

3-1-2. Replacement of the SLED MOTOR

1) Remove the TRAVERSE MECHA (refer to section 3-1-1).
2) Unsolder the leads of the SLED and SPINDLE MOTORs then remove the MOTOR PCB.

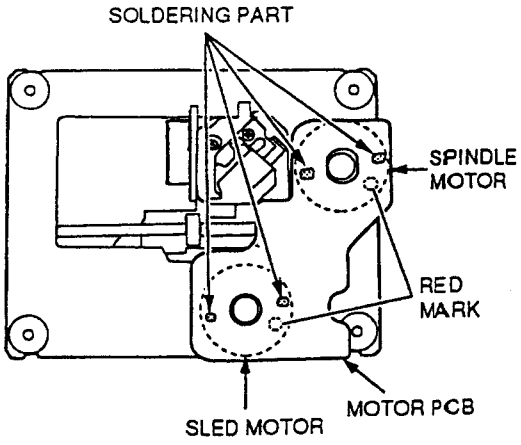


Fig. 3-4

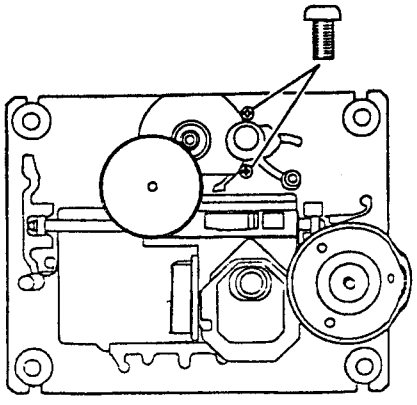


Fig. 3-5

3) Remove the two retaining screws, then remove the SLED MOTOR.
Next, extract the plastic gear from the motor shaft and attach it onto the new motor's shaft.
4) Reassemble in the reverse order.

About the SPINDLE MOTOR:
Replacement of the SPINDLE MOTOR itself is not recommended, because adjustment of the TURN TABLE height is quite critical and requires the use of a special jig.

3-1-3. Replacement of the PICK UP BLOCK

1) Remove the TRAVERSE MECHA (refer to section 3-1-1).
2) While pressing the Ⓐ stopper upwards, pull the SLIDE SHAFT to the right to remove the PICK UP BLOCK, then replace the PICK UP BLOCK.

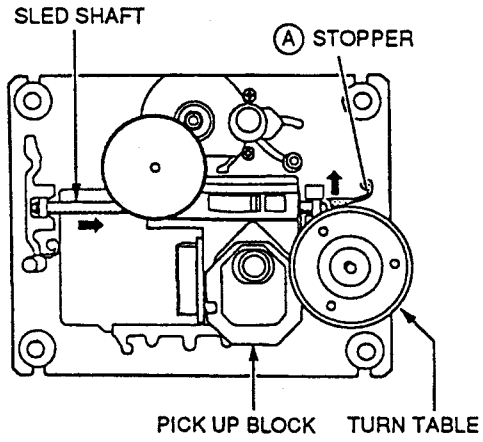


Fig. 3-6

3) Reassemble in the reverse order.

3-1-4. Replacement of the LOADING MOTOR

1) Slide the protruding part of the GEAR HOLDER PART in the direction of the arrow, then pull out the TRAY BLOCK.

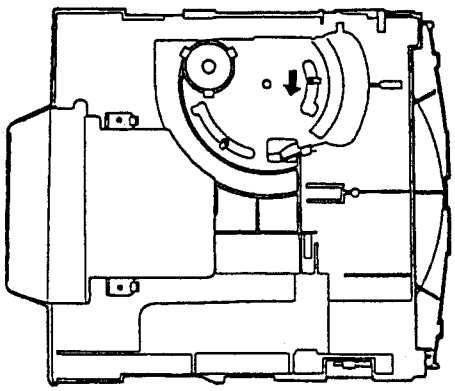


Fig. 3-7

2) Unhook the LOADING BELT with tweezers.

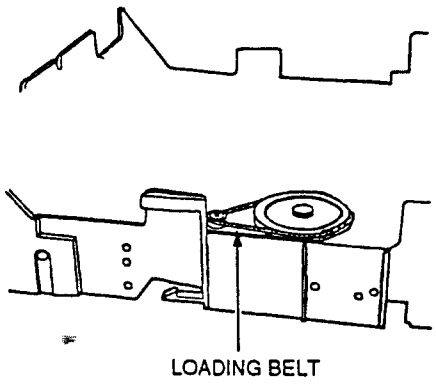


Fig. 3-8

3) Unsolder the lead wires of the LOADING MOTOR with a soldering iron.
4) While releasing the LOADING MOTOR's three retaining hooks, push the motor pully part down with your middle finger to remove the LOADING MOTOR, then replace it.

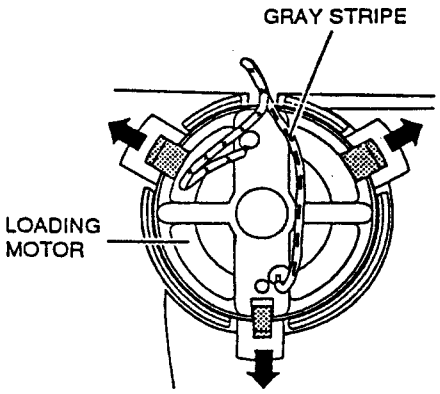


Fig. 3-9

5) Reassemble in the reverse order. Make sure that the wire with the gray stripe is connected to the motor's O marked terminal when soldering.

3-1-5. Removal of the TRAY BLOCK

1) If the TRAY BLOCK is in the "in" position, slide the protruding part of the GEAR HOLDER PART in the direction of the arrow and pull out the TRAY BLOCK slowly (refer to Fig. 3-7).
2) In order to disengage the two stoppers, carefully press the Ⓐ part of the TRAY BLOCK downwards while pulling the TRAY BLOCK out as shown in Fig. 3-10.

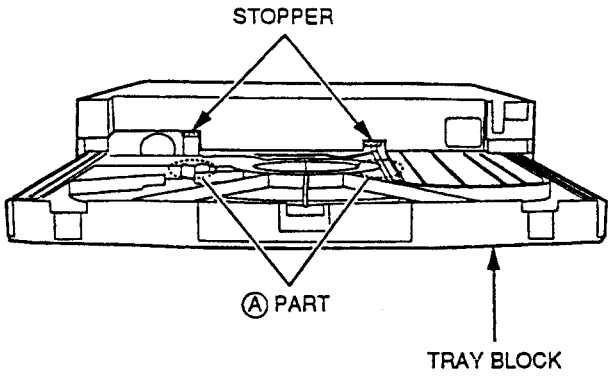


Fig. 3-10

4) Remove the TRAY BLOCK by pulling it out carefully
5) Reassemble in the reverse order for installation. When reattaching the TRAY BLOCK to the chassis, carefully align the guides on both sides of the TRAY BLOCK with their corresponding rails on the chassis. Also, make sure that any one of the reference marks on the DISC HOLDER aligns with the reference mark on the LOADING TRAY.

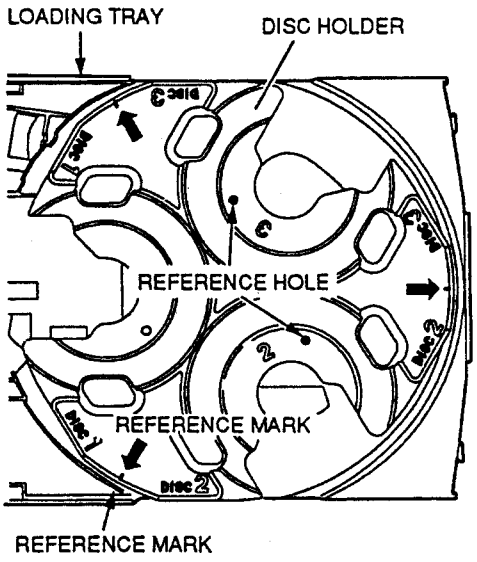


Fig. 3-11

Next, move the head of the GEAR HOLDER PART in the direction of the arrow before engaging the stoppers as shown in Fig. 3-12.

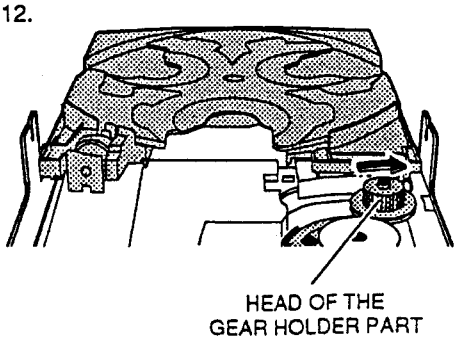


Fig. 3-12

3-1-6. Replacement of the TABLE MOTOR

1) Remove the TRAY BLOCK (refer to section 3-1-5).
2) Remove the DISC HOLDER retaining screw then remove the DISC HOLDER.

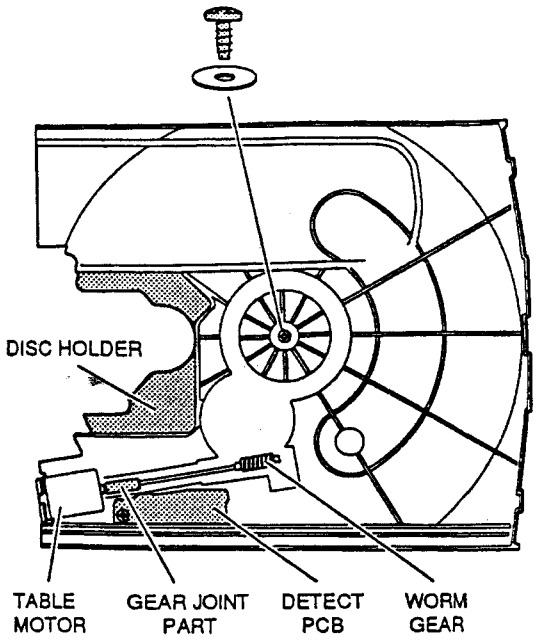


Fig. 3-13

3) Unsolder the leads of the TABLE MOTOR and remove the TABLE MOTOR PCB.

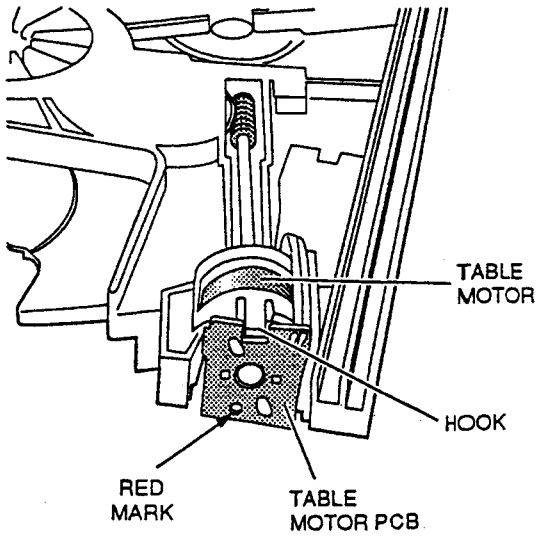


Fig. 3-14

4) Remove the TABLE MOTOR by pulling it out while opening the TABLE MOTOR retaining hook. Next, remove the WORM GEAR BLOCK by pulling the GEAR JOINT PART out and attach it to the new motor as shown in Fig. 3-13.
5) Reassemble in the reverse order.
   - When soldering the TABLE MOTOR PCB on the TABLE MOTOR, the TABLE MOTOR's red mark must be visible through the hole on the TABLE MOTOR PCB.
   - When attaching the DISC HOLDER on the LOADING TRAY, make sure to place the DISC HOLDER so that any one of the three reference marks aligns with the reference mark on the LOADING TRAY (any two reference holes on the DISC HOLDER align with the corresponding reference holes on the LOADING TRAY accordingly). (Refer to Fig. 3-11)

3-2. TAPE-I & TAPE-II MECHANISM BLOCK

3-2-1. Removal of the MECHANISM BLOCK

1) Remove the FRONT PANEL BLOCK.
2) Remove the four screws for each of the TAPE-I and TAPE-II MECHANISM BLOCKs then remove the MECHANISM BLOCKs from the FRONT PANEL BLOCK.

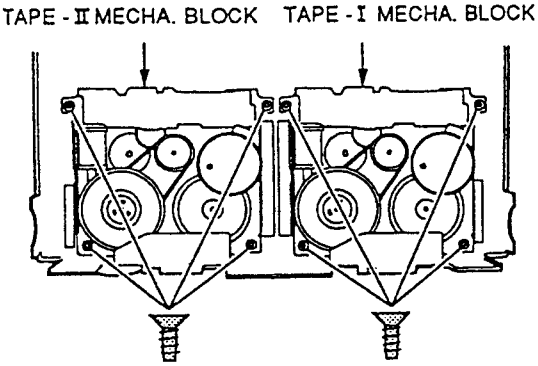


Fig. 3-15

3-2-2. Replacement of the CAPSTAN MOTOR

NOTE : After replacement, tape speed adjustment must be performed.

1) Unsolder the flat cable on the CAPSTAN MOTOR with a soldering iron.
2) While pressing the INTER-LOCK LEVER in the direction of the arrow, remove the two Ⓑ screws and then remove the CAPSTAN MOTOR.

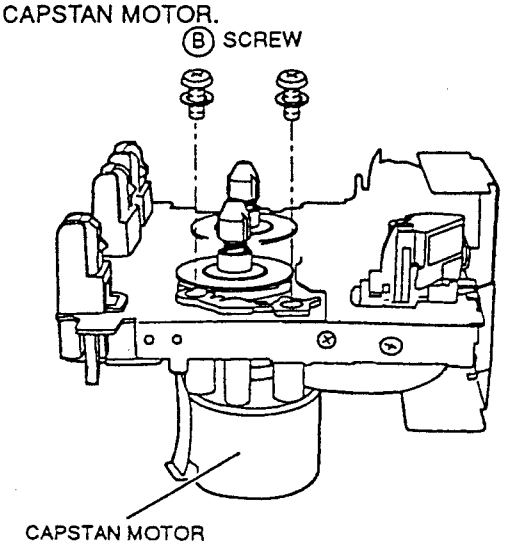


Fig. 3-16

3) Install a new motor and re-assemble in the reverse order for installation.

3-2-3. Replacement of the FR BELT

1) Unthread the MAIN BELT and replace the FR BELT as shown in Fig. 3-17.
2) Proceed in the reverse or for installation.

3-2-4. Replacement of the MAIN BELT

1) Remove the CAPSTAN MOTOR
2) Replace the MAIN BELT and re-assemble in the reverse order for installation.

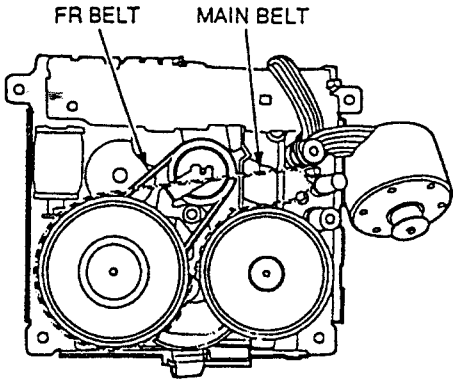


Fig. 3-17

3) After replacement, check the tape speed and if the result is not satisfactory, tape speed adjustment must be performed.

3-2-5. Replacement of the PINCH ROLLER BLOCK

1) Extract the PINCH ROLLER BLOCK upwards while releasing the pinch roller retaining hook in the direction of the arrow.

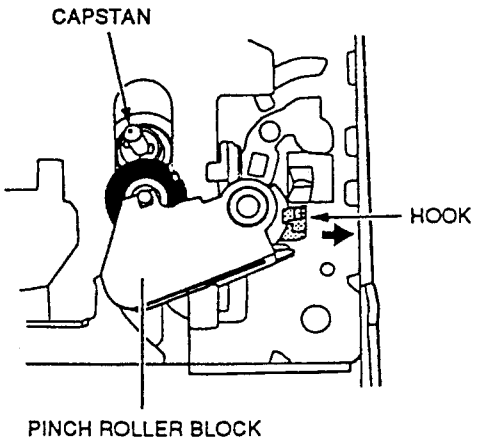


Fig. 3-18

2) Replace the PINCH ROLLER BLOCK and re-assemble in the reverse order. Attach the spring in the correct position when placing the PINCH ROLLER BLOCK.

3-2-6. Replacement of the PB HEAD OR REC/PB HEAD

1) Remove the two Ⓐ screws and remove the HEAD SHIELD PLATE.

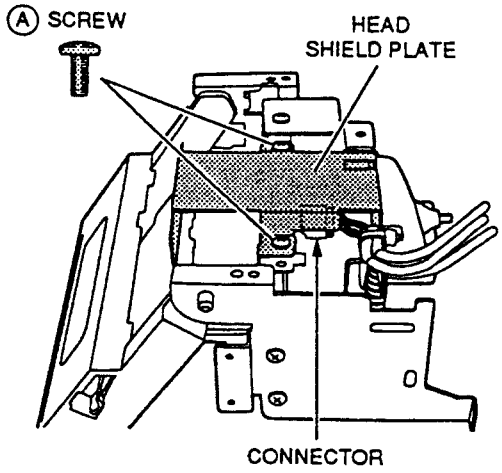


Fig. 3-19

2) Disconnect the connector on the CONNECTOR PCB and remove the PCB retaining screw.

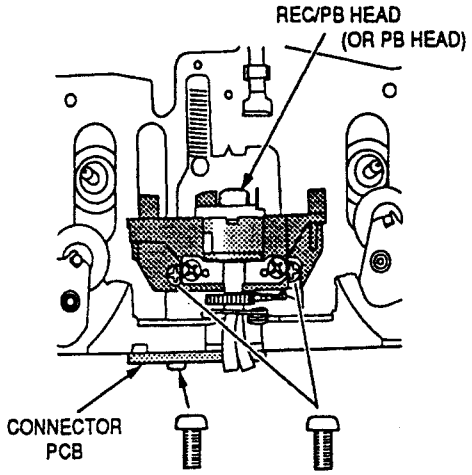


Fig. 3-20

3) Remove the two head retaining screws and remove the HEAD BLOCK.
4) Reassemble in the reverse order. After replacement, demagnetize the HEAD then perform head azimuth adjustment.

IV. MECHANICAL ADJUSTMENT

4-1. ADJUSTMENT OF THE HEAD AZIMUTH ALIGNMENT

1) Connect an oscilloscope to the L-ch and R-ch speaker terminals of the unit. Set the VOLUME control on the FRONT PANEL at the appropriate level (ie, the output level is not too low or too high).
2) Play back a 10 kHz (–15 dB), HEAD AZIMUTH ALIGNMENT TEST TAPE (TF-106CH) then adjust the HEAD AZIMUTH ALIGNMENT Ⓐ (FWD PLAY) and Ⓑ (REV PLAY) SCREWs respectively so that the waveform level of both the L-ch and R-ch are at maximum and also they are in the same phase in both FWD and REV directions. (Use a sharp edge philips type screwdriver that is de-magnetized for adjustment.)
   Perform the adjustment on both the TAPE-I and TAPE-II heads if necessary.

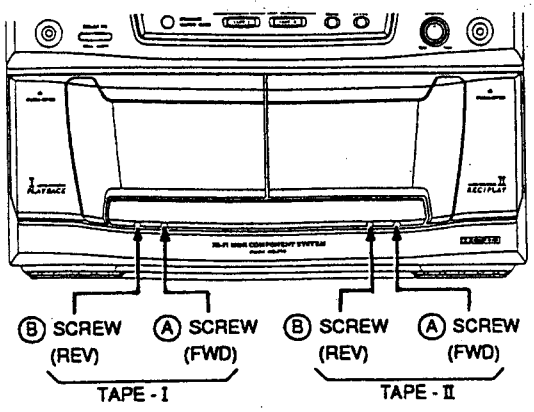


Fig. 4-1

V. ELECTRICAL ADJUSTMENT

5-1. TAPE DECK SECTION

NOTE :

1) The following adjustment should be performed in the "DECK test mode".
   To engage the DECK test mode, connect the AC power cord to the AC outlet while pressing the "TAPE-II" and "▶ (F)" buttons together.
   When the "DECK test mode" is engaged, the "DUBX1" indicator on the FL display will light.
2) When performing the tape speed adjustment, observe the following notes.
   - Adjustment should be started more than 30 seconds after the power is switched ON.
   - Adjustment should be made on X2 speed mode first then adjust the normal speed mode.
   - Adjustment should be made in the forward direction.
3) To disengage the "DECK test mode", press the "POWER" button or unplug the AC power cord from the AC outlet.

STEP	ADJUSTMENT
1.	Test tape/input signal
2.	Mode
3.	Check point, adjustment part
4.	Remarks (•) and result (*)

Adjustment Part →
Test Point ←

1 TAPE-I (X2) TAPE SPEED

1. 3,150 Hz test tape (TF-110CT)
2. TAPE-I, PLAY
3. TP-R.OUT, VR3100
4. • Connect a frequency counter to the TP-R.OUT (or L.OUT) and press the "DUBBING" button to engage double speed.
   * 6,340 ± 20 Hz

2 TAPE-I NORMAL TAPE SPEED

1. 3,150 Hz test tape (TF-110CT)
2. TAPE-I, PLAY
3. TP-R.OUT, VR3101
4. • Connect a frequency counter to the TP-R.OUT and press the "▶ (F)" button again to resume normal tape speed.
   * 3,150 ± 10 Hz

3 TAPE-II (X2) TAPE SPEED

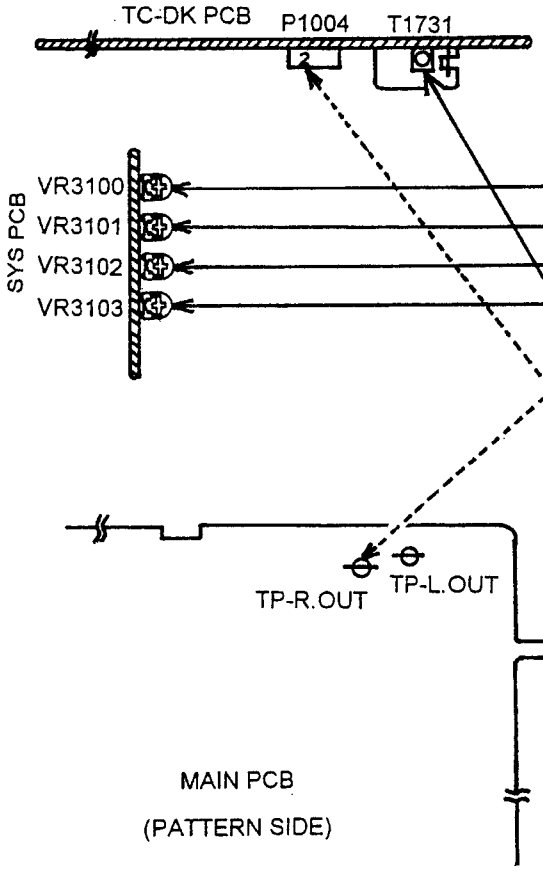
1. 3,150 Hz test tape (TF-110CT)
2. TAPE-II, PLAY
3. TP-R.OUT, VR3102
4. • Press the "TAPE-II" button and play back the test tape.
   • Connect a frequency counter to the TP-R.OUT and press the "DUBBING" button to engage double speed.
   * 6,320 ± 20 Hz

4 TAPE-II NORMAL TAPE SPEED

1. 3,150 Hz test tape (TF-110CT)
2. TAPE-II, PLAY
3. TP-R.OUT, VR3103
4. • Connect a frequency counter to the TP-R.OUT and press the "▶ (F)" button again to resume normal tape speed.
   * 3,140 ± 10 Hz

5 BIAS OSC FREQUENCY

1. CrO2 type blank tape
2. TAPE-II, REC
3. P1004 ② pin, T1731
4. • Connect a frequency counter between P1004 pin and GND. (10 : 1 probe should be used to avoid affecting the measurement.)
   • Start a recording (press the "REC" button then press the "▶" button).
   The "AUX" source indicator appears automatically.
   * 100.0 ± 0.2 kHz



5-2.CD PLAYER SECTION

TEST MODE FOR CD PLAYER'S OPERATION

Some adjustments of the CD PLAYER section are automatically carried out by the micro computer.

If the CD player section is defective and it is necessary to partially check the operation, "CD TEST" mode can be used while repairing.

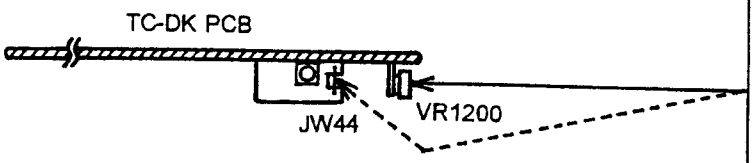
Engaging the "CD TEST" MODE

While pressing and holding both the "CD1" and " (F)" buttons, plug in the AC power cord to the AC outlet.

Note :

- During "CD TEST" mode, only the DISC"1" open/close button can be used for loading. So, place a disc on "TRAY 1".
- Proceed testing by pressing the "CD1" button once for each testing step.
- To disengage the "CD TEST" mode, press the "POWER ON/STANDBY" button or disconnect the AC power cord from the AC outlet.

DISPLAY	FUNCTION
T0 (TEST-0)	Initial condition of the "CD TEST" mode.
T1 (TEST-1)	Perform "focus search".
T2 (TEST-2)	Turn on the "focus servo".
T3 (TEST-3)	Mode of the "E-F balance" adjustment.
T4 (TEST-4)	E-F balance adjustment is carried out automatically and its data value is displayed on the FLD.
T5 (TEST-5)	Mode of the "Tracking gain" adjustment.
T6 (TEST-6)	Tracking gain adjustment is carried out automatically and its data value is displayed on the FLD.
T7 (TEST-7)	Normal playback mode is engaged.



1	FOCUS OFFSET
1. Test disc (SONY TYPE-III)	
2. Play back	
3. JW44 and VR1200	
4. Connect the hot side probe of an AC milivoltmeter to JW44 on the BIAS OSC PCB and GND side probe to the chassis. Adjust the VR1200 on the TC-DK PCB until indication of the AC milivoltmeter is maximum.	

VI. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list the part No., Model No. and the description of each part. Otherwise, the nondelivery of the part or the delivery of a wrong part may result.
2. Please make sure that part No. is correct when ordering.
   If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in parts list of preliminary service manual may have been the subject of changes, please use this parts list for all future reference.

[NOTE]

1. This parts list lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts list shows those parts in the parts list which are considered particularly important for service.
3. Parts not shown in the parts list and "Common List for Service Parts" will not in principle be supplied.

WARNING

⚠ (*) INDICATED SAFETY CRITICAL COMPOMETS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVEERTISSEMENT

⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ POUR MAINTENIR LE DEGRÉDE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. REMOTE P.C. BOARD

REF. NO.	PARTS No.	DESCRIPTION
CF001	007-300455-63	RESONATOR CRK455 455KHz
IC001	033-806122-13	REMOTE TRANSMITTER UPD6122G-001
LED001	130-670303-00	INFRA RED EMITINT DIODE EL-1L1
PCB	090-385604-01	REMOTE BOARD T=1.6mm 94HB (46X119mm)
Q001	031-278050-03	TRANSISTOR NPN KTC8050C
D001-004	030-134148-00H	D SILICON IN4148
	210-010101-01S	REMOTE BATTERY COVER

2. SYS CON P.C. BOARD

REF. NO.	PARTS No.	DESCRIPTION
D 3001-3002/3004-3015	030-320131-01H	D SILICON H 1SS131T T52
D 3079-3088/3100-3109/3111-3112		
D 3003/3016/3017/3100/3120 (for AC-710/713R/715K)	030-320131-01H	D SILICON H 1SS131T T52
D 3018-3031	030-560034-10	D LED MYB34C YELLOW
D 3032-3038	030-540034-04	D LED MGB34D GREEN
D 3039-3042/3046/3048-3054	030-560031-00	D LED MYB31CA YELLOW
D 3045	030-510031-00	D LED MSB31TA RED
D 3047(for AC-710/713R/715K)	030-530031-04	D LED MGB31C GREEN
D 3113(S1/Y7)	030-320131-01H	D SILICON H 1SS131T T52
D 3114(for AC-515K/715K)	030-320131-01H	D SILICON H 1SS131T T52
D 3115(S1/A3)	030-320131-01H	D SILICON H 1SS131T T52
D 3116(for AC-513R/713R)	030-320131-01H	D SILICON H 1SS131T T52
D 3117(for AC-515K/715K)	030-320131-01H	D SILICON H 1SS131T T52
D 3119(E1/B1/RE1/E3)	030-320131-01H	D SILICON H 1SS131T T52
D 3121(for AC510/513R/515K)	030-320131-01H	D SILICON H 1SS131T T52
D 3200/3205/3206/3211	030-560031-00	D LED MYB31CA YELLOW
D 3201-3204/3207-3210	030-540034-04	D LED MGB34D GREEN
FR3301(for AC-710/713R/715K)	013-689105-82	R FUSE V S10 FR25 1/4W 6R8J
IC3001A	034-B00301-12	IC M38197MA-149FP TX2-SYS75-1
IC3002	033-509121-29	IC PST-9121 T05
IC3003	033-002402-42	IC XL24C02P
IC3004	033-202011-14	IC TA2011S
IC3005-3007/3200	034-304094-18	IC BU4094BCF
IC3100	033-304094-18A	IC BU4094BC
IC3101(for AC-513R/713R)	034-106579-33	IC SAA6579T-T
IC3102(for AC-513R/713R)	034-307073-16	IC LC7073M
IC3300(for AC-710/713R/715K)	034-816312-13	IC UPD16312
IN3001A	035-130463-00	IND FL BJ463GK
IN3300(for AC710/713R/715K)	035-130521-00	IND FL 5-ST-21GK
J 3001	061-121406-00	PHONE J HSJ1406-01-010 3.5
J 3002(for AC-515K/715K)	061-121406-00	PHONE J HSJ1406-01-010 3.5
J 3003	060-406123-99	SOCKET 00 6216 006 000 6P
J 3022	060-423124-99	SOCKET 00 6216 023 100 23P
J 3033	060-406123-99	SOCKET 00 6216 006 000 6P
P 3001(for AC-510/513R/515K)	060-103204-07	PLUG S3B-PH-K WHT 3P
P 3001A(for AC-710/713R/715K)	060-111204-07	PLUG S11B-PH-K WHT 11P
P 3011(for AC-510/513R/515K)	060-422124-99	PLUG TKC-V22P-A1 22P
P 3011A(for AC-710/713R/715K)	060-424124-99	PLUG TKC-V24P-A1 24P
PH3001	036-600446-01	DETECTOR SPS-446-1
SW3001	040-002410-20	SW ROTARY EC16B24304
SW3002	046-080001-00	SW PUSH VPS-800
TR3003-3005/3107-3110/3124-3126	031-440144-05V	DTR DTC144ES(47-47) T05
TR3101/3103/3113-3120/3122-3123	031-211048-25V	TR 2SA1048 Y,GR T05
TR3100/3102/3104-3106	031-221425-00V	TR 2SB1425 S,E T05
TR3111(for AC-513R/713R)	031-211048-25V	TR 2SA1048 Y,GR T05
TR3112(for AC-513R/713R)	031-440144-05V	DTR DTC144ES(47-47) T05

TR3121(for AC-710/713R/715K)	031-211048-25V	TR 2SA1048 Y,GR T05
TR3300-3301(for AC-710/713R/715K)	031-233576-00V	TR 2SC3576 T05
TR3302(for AC-710/713R/715K)	031-430114-05V	DTR DTA114ES(10-10) T05
TS3001-3022/3300/3301	046-110201-00	SW TACT 1.T-1102A 160GM
TS3023-3028(for AC-710/713R/715K)	046-110201-00	SW TACT 1.T-1102A 160GM
VR3001	011-202298-00	VR ROTARY RK11K1140 L17.5 B202
VR3100/3102	112-222311-05	R S-FIX V T05EVNDCAA3 0.10W222
VR3101/3103	112-102311-05	R S-FIX V T05EVNDCAA3 0.10W102
W 3001(for AC-510/513R/515K)	063-552701-03	WA PH-SAN L270 3P
W 3001A(for AC-710/713R/715K)	063-552701-11	WA PH-SAN L270 11P
W 3007	077-622107-15	WF 2468#26 P2.0 C09 L100 15P
W 3008	077-622107-16	WF 2468#26 P2.0 C09 L100 16P
W 3009	077-626107-13	WF 2468#26 P2.0 C09 L100 13P
W 3010	077-626117-10	WF 2468#26 P2.0 C09 L100 10P
X 3001	007-208000-06	OSC CE CST8.00MTW 8.000MHZ
X 3002	037-032768-10M	OSC X'TAL C-002RX 32.768KHZ
X 3100(for AC-513R/713R)	007-204000-06	OSC CE CST4.00MGW 4.000MHZ
X 3101(for AC-513R/713R)	037-004332-10Z	OSC X'TAL HC-49/U-S 4.33200MHZ

3. MAIN P.C. BOARD

REF. NO.	PART No.	DESCRIPTION
D 001/010/022/024/042/044/046/083/ D 121/123/124/141-143/155-156/ D 175-176/221/724	030-320131-01H	D SILICON H 1SS131T T52
D 002/003(for AC-510/513R/515K)	⚠030-310040-02	D SILICON DBF40C 200/4.0A
D 002A/003A(for AC-710/713R/715K)	⚠030-310060-02	D SILICON DBF60C 200/6.0A
D 004/005/043/085/144	030-410051-20H	D ZENER MTZJ5.1B T52
D 006-009	⚠030-310152-06	D SILICON RL152M11S15 100/1.5A
D 021/023/081/151/152/158/171/172/178	030-314002-10H	D SILICON 1N4002-F T52 100/1A
D 025/145/721-723	030-410062-10H	D ZENER MTZJ6.2A T52
D 041	030-410075-10H	D ZENER MTZJ7.5C T52
D 045	030-410015-03H	D ZENER MTZJ15B T52
D 063/066/751-753(for AC-510/513R/515K)	030-410062-10H	D ZENER MTZJ6.2A T52
D 063A/066A(for AC-710/713R/715K)	030-410075-10H	D ZENER MTZJ7.5C T52
D 084	030-410330-00H	D ZENER MTZJ33B T52
D 153/173	030-410030-10H	D ZENER MTZJ3.0A T52
D 154/174	030-410110-10H	D ZENER MTZJ11A T52
D 157/177	030-315401-00	D SILICON IN5401M24S15 3A/100V
D 224/771-772/775(for AC-710/713R/715K)	030-320131-01H	D SILICON H 1SS131T T52
D 531-533(for AC-715K)	030-320131-01H	D SILICON H 1SS131T T52
D 551-554(for AC-515K/715K)	030-320131-01H	D SILICON H 1SS131T T52
F1(for AC-510/513R/515K)	⚠ 082-222000-06	FUSE TIME 218 250V 2.00A
F2(for AC-515K)	⚠ 082-222000-06	FUSE TIME 218 250V 2.00A
F1(for AC-710/713R/715K)	⚠ 082-222500-06	FUSE TIME 218 250V 2.50A
F2(for AC-715K)	⚠ 082-222500-06	FUSE TIME 218 250V 2.50A
IC 021	033-507805-00B	IC ML7805FA 5V/1A
IC 101/801	033-304094-18A	IC BU4094BC
IC 201(for AC-510/513R/515K)	033-204201-16	IC STK4201-2
IC 201A(for AC-710/713R/715K)	033-204221-16	IC STK4221-2
IC 501(for AC-515K/710/713R/715K)	033-K65843-12	IC M65843AFP
IC 581	033-904558-30A	IC NJM4558L
IC 602(for AC-710/713R/715K)	034-K02177-74	IC NJM2177AFB3
IC 701	034-262422-12	IC M62422FP
IC 731	033-203835-18	IC BA3835S
IC 751/761(for AC-710/713R/715K)	033-209412-14	IC TC9412P
IC 761A(for AC-510/513R/515K)	033-009260-14	IC TC9260P
IC 771(for AC-710/713R/715K)	033-904558-30A	IC NJM4558L
IC 802(for AC710/713R/715K)	033-304094-18A	IC BU4094BC

J 011(for AC510/513R/515K)	060-422122-99	SOCKET TKC-V22X-A1 22P
J 011A(for AC-710/713R/715K)	060-424122-99	SOCKET TKC-V24X-A1 24P
J 201(for AC-510/513R/515K)	061-122000-00	PHONE J HSJ2000-01-010 3.5
J 201A(for AC-710/713R/715K)	061-123000-00	PHONE J HSJ3000-01-010 3.5
L 201/251	004-285103-08	COIL FIX2 202AK018A COILS 2R2K
L 281(E1/B1/RE1/E3/A3)	084-070410-00	COIL BALUM OPW/5-8-14-5H2
L 801	002-300002-09	COIL LF LF-4D-102 102UH
P 006	060-116204-07	PLUG S16B-PH-K WHT 16P
P 012	060-102045-20	PLUG B2P-3-VH P7.92 2P
P 013/902	060-405001-17	PLUG RTB-1.5-5P 5P
P 014	060-104205-27	PLUG B4B-PH-K WHT 4P
P 015(for AC-710/713R/715K)	060-403001-17	PLUG RTB-1.5-3P 3P
R 004-005/043	⚠ 013-478205-75	R OMF H S10FLR ERG12SP1/2WR47J
R 047-048	⚠ 013-221205-75	R OMF H S10FLR ERG12SP1/2W221J
R 081	⚠ 013-399205-75	R OMF H S10FLR ERG12SP1/2W3R9J
R 021/103/106/109/112	⚠ 013-109205-75	R OMF H S10FLR ERG12SP1/2W1R0J
R 153/173	⚠ 013-122305-75	R OMF H S12 FLR ERG1SP 1W 122J
R 209/259/283	⚠ 013-100305-75	R OMF H S12 FLR ERG1SP 1W 100J
R 210/260(for AC-510/513R/515K)	⚠ 013-100305-75	R OMF H S12 FLR ERG1SP 1W 100J
R 210A/260A(for AC-710/713R/715K)	⚠ 013-560305-75	R OMF H S12 FLR ERG1SP 1W 560J
R 212/262	013-108410-51	R CT P F09 PLATE 2W R10K
RL 001-002	006-110212-04	RELAY POW OSA-SS 212DM5 TV-3
TM 201	061-780401-00	TERMINAL PUSH CJ-9007-060 4P
TR 022/024//026/043	031-440114-05V	DTR DTC114ES(10-10) T05
TR 023	031-221425-00V	TR 2SB1425 S,E T05
TR 025	031-220621-00V	TR 2SB621 R,S T05
TR 044/081	031-221375-00	TR 2SB1375
TR 045/201-203/251-253	031-232458-25V	TR 2SC2458 Y,GR T05
TR 046	031-242012-00	TR 2SD2012
TR 021/041/082/101-104/141	031-211048-25V	TR 2SA1048 Y,GR T05
TR 121-124	031-440114-60V	DTR DTC114TS(10) T05
TR 151	031-590175-00	TR FET 2SJ175
TR 152-172	031-232459-57V	TR 2SC2459 GR,BL T05
TR 171	031-251093-00	TR FET 2SK1093
TR 221	031-430114-05V	DTR DTA114ES(10-10) T05
TR 222(only for AC-710)	031-430114-05V	DTR DTA114ES(10-10) T05
TR 281	031-221425-00V	TR 2SB1425 S,E T05
TR 285	031-440144-05V	DTR DTC144ES(47-47) T05
TR 531(for AC-715K)	031-430114-19V	DTR DTA114TS(10) T05
TR 532-533/535-536/539-541 (for AC-715K)	031-440144-60	DTR DTC144TS(47) T05
TR 534/537-538(for AC-715K)	031-440114-60V	DTR DTC114TS(10) T05
TR 551-552(for AC-515K/715K)	031-440114-60V	DTR DTC114TS(10) T05
TR 601-602(for AC-710/713R/715K)	031-430114-19V	DTR DTA114TS(10) T05
TR 603-604(for AC-710/713R/715K)	031-440114-60V	DTR DTC114TS(10) T05
W 014	063-552301-04	WA SAN-PH #24 L230 4P
W 302(for AC-710/713R/715K)	063-555501-07	WA SAN-PH L550 7P
W 801(for AC-515K/715K)	063-502401-11	WA SDN L200 6P
X 501(for AC-710/713R/715K)	007-002000-40	OSC CE CSA2.00MG 2.000MHZ
X 551(for AC-515K/715K)	007-200400-03	OSC CE DCRK400 400.000KHZ

4. TC-DK P.C. BOARD

REF. NO.	PARTS No.	DESCRIPTION
D 1300-1304	030-314002-10H	D SILICON 1N4002-F T52 100/1A
D 1400/1401/1721	030-320131-01H	D SILICON H 1SS131T T52
D 1501	030-410051-10H	D ZENER MTZJ5.1A T52
FL1611/1621/1661/1671	007-100100-09	COIL TUN 1 100Z-121 100.00KHZ

IC1001	033-314052-21	IC MC14052BCP
IC1002	033-904558-30A	IC NJM4558L
IC1100	033-601782-64Q	IC CXA1782BQ
IC1200	033-K02508-64	IC CXD2508AQ
IC1210	033-904558-30A	IC NJM4558L
IC1300	033-209258-61	IC KA9258D
IC1400	033-206247-18	IC BA6247
IC1601	034-101897-64	IC CXA1897Q
IC1701/1702	034-304094-18	IC BU4094BCF
J 1001	061-782421-00	PIN J HSP-242V1-05 2P
J 1002	060-423123-99	SOCKET 00 6216 023 000 23P
J 1100	060-416109-99	SOCKET 00 6232 016 006 16P
L 1501(S1/U5/U8/Y6/Y7/A3)	005-229056-01H	COIL FIX 1 LAP02TA T26 2R2J
L 1721	005-101056-00H	COIL FIX 1 LAP02TA T26 101J
P 1004	060-108205-27	PLUG B8B-PH-K WHT 8P
P 1005	060-103205-27	PLUG B3B-PH-K WHT 3P
P 1400	060-105204-27	PLUG S5B-PH-K WHT 5P
P 1401	060-107204-29	PLUG S7B-PH-K WHT 7P
P 1402	060-106206-27	PLUG S6B-PH-K WHT 6P
T 1731	002-800002-09	COIL OSC 1 C1047
TM1501	061-480312-00	TERMINAL LEVER HSP-312V-02
TR1100/1400/1632/1743/1682	031-211048-25V	TR 2SA1048 Y,GR T05
TR1300/1301	031-221425-00V	TR 2SB1425 S,E T05
TR1302/1601/1621/1651/1671/ TR1644/1721/1722	031-440114-05V	DTR DTC114ES(10-10) T05
TR1401/1501/1611-1622/1661-1662/1701	031-232458-25V	TR 2SC2458 Y,GR T05
TR1502(for AC-513R/713R)	031-250304-06V	TR FET 2SK304 E,F T05
TR1613/1663	031-241012-06V	TR 2SD1012-V-SPA-AC F,G,H T05
TR1631/1681/1665	031-430114-19V	DTR DTA114TS(10) T05
TR1641/1642/1691/1692 (for AC-710/713R/715K)	031-430114-19V	DTR DTA114TS(10) T05
TR1643/1693(for AC-715K)	031-430114-19V	DTR DTA114TS(10) T05
TR1645/1695(for AC-515K/715K)	031-232458-25V	TR 2SC2458 Y,GR T05
TR1723-1725	031-231815-26V	TR 2SC1815 Y,GR T05
TR1726(E1/B1/RE1/E3)	031-211048-25V	TR 2SA1048 Y,GR T05
TR1731-1732(E1/B1/RE1/E3)	031-232458-25V	TR 2SC2458 Y,GR T05
TR1771-1774(for AC-710/713R/715K)	031-440114-05V	DTR DTC114ES(10-10) T05
TU1501(E1/B1/RE1/E3)	103-146601-04	TUNER TFCB3E720A FM/MW/LW
TU1501A(S1/U5/U8/Y6)	103-146401-04	TUNER TFCB1U717A FM/AM
TU1501B(Y7)	103-146101-04	TUNER TFCB1S713A FM/MW/SW
VR1200	112-103311-05	R S-FIX V T05EVNDCAA3 0.10W103
W 1006	063-551001-16	WA PH L100 16P
W 1400/1401	077-322087-09	WF 2468#26 P2.0 C09 L80 9P
X 1200	007-201693-06	OSC CE CSA16.93MHZ
D 4410	030-600048-00	D LED GL4800
J 4410	060-405124-99	SOCKET 00 6216 005 100 5P
J 4411	060-405123-99	SOCKET 00 6216 005 000 5P
TR4410	031-594800-00	TR PHOTO PT4800
W 4410	077-622077-02	WF 2468#26 P2.0 C09 L70 2P
W 4412	063-555301-05	WA SAN-PH L530 5P

5. POWER-SUB P. C. BOARD
(AC-710/713R/715K only)

REF NO.	PARTS NO	DESCTIPTION
D 2001	030-310040-02	D SILICON DBF40C 200/4.0A
D 2002-2005	030-314002-10H	D SILICON 1N4002-F T52 100/1A
IC2301	033-404142-16	IC STK4142-2
J 2301	061-780243-00	PIN J HSP-243V-06 3P

L 2301/2351	004-285103-08	COIL FIX2 202AK018A COILS 2R2K
L 2381(only AC-713R)	084-070410-00	COIL BALUM OPW 15-8-14-5H2
P 2301	060-403001-17	PLUG RTB-1.5-3P 3P
P 2302	060-107205-27	PLUG B7B-PH-K WHT 7P
R 2309/2359	013-100305-75	R OMF H S12 FLR ERG1SP 1W 100J
R 2310/2360	013-560305-75	R OMF H S12 FLR ERG1SP 1W 560J
R 2312/2362	013-108410-51	R CT P F09 PLATE 2W R10K
TR2301-2303/2351-2353	031-232458-25V	TR 2SC2458 Y,GR T05
F5	⚠ 082-223150-06	FUSE TIME 218 250V 3.15A
F6	⚠ 082-223150-06	FUSE TIME 218 250V 3.15A

6. P.C. BOARD BLOCK

REF. NO.	PARTS No.	DESCRIPTION
1-a(AC-510 B1/E1/E3)	771-385101-01	CD/TUNER/TAPE P.C. BOARD
1-b(AC-510 S1)	771-385101-02	CD/TUNER/TAPE P.C. BOARD
1-c(AC-513R E1)	771-385101-03	CD/TUNER/TAPE P.C. BOARD
1-d(AC-515K U5/U8/Y6)	771-385101-04	CD/TUNER/TAPE P.C. BOARD
1-e(AC-515K Y7)	771-385101-05	CD/TUNER/TAPE P.C. BOARD
2-a(AC-510 B1/E1)	771-385101-06	KEY/DISPLAY P.C. BOARD
2-b((AC-510 S1)	771-385101-07	KEY/DISPLAY P.C. BOARD
2-c(AC-513R E1)	771-385101-08	KEY/DISPLAY P.C. BOARD
2-d(AC-515K U5/U8/Y6)	771-385101-09	KEY/DISPLAY P.C. BOARD
2-e(AC-515K Y7)	771-385101-10	KEY/DISPLAY P.C. BOARD
3-a(AC-510 B1/E1/E3/A3)	771-385101-11	POWER AMP/MAIN P.C. BOARD
3-b(AC-510 S1)	771-385101-12	POWER AMP/MAIN P.C. BOARD
3-c(AC-513R E1)	771-385101-13	POWER AMP/MAIN P.C. BOARD
3-d(AC-515K U5/U8/Y6/Y7)	771-385101-14	POWER AMP/MAIN P.C. BOARD
4(for TX-410/510/610/710 of all version)	771-385601-13	REMOTE P.C. BOARD
5-a(AC-710 B1/E1/E3)	771-385201-01	CD/TUNER/TAPE P.C. BOARD
5-b(AC-710 S1)	771-385201-02	CD/TUNER/TAPE P.C. BOARD
5-c(AC-713R E1)	771-385201-03	CD/TUNER/TAPE P.C. BOARD
5-d(AC-715K U5/U8/Y6)	771-385201-04	CD/TUNER/TAPE P.C. BOARD
5-e(AC-715K Y7)	771-385201-05	CD/TUNER/TAPE P.C. BOARD
6-a(AC-710 B1/E1/E3)	771-385201-06	KEY/DISPLAY P.C. BOARD
6-b((AC-710 S1)	771-385201-07	KEY/DISPLAY P.C. BOARD
6-c(AC-713R E1)	771-385201-08	KEY/DISPLAY P.C. BOARD
6-d(AC-715K U5/U8/Y6)	771-385201-09	KEY/DISPLAY P.C. BOARD
6-e(AC-715K Y7)	771-385201-10	KEY/DISPLAY P.C. BOARD
7-a(AC-710 B1/E1/E3/A3)	771-385201-11	POWER AMP/MAIN P.C. BOARD
7-b(AC-710 S1)	771-385201-12	POWER AMP/MAIN P.C. BOARD
7-c(AC-713R E1)	771-385201-13	POWER AMP/MAIN P.C. BOARD
7-d(AC-715K U5/U8/Y6/Y7)	771-385201-14	POWER AMP/MAIN P.C. BOARD

7. YMCO3 P . C . BOARD

REF . NO .	PART NO .	DESCRIPTION
D4410	030-600048-00	D LED GL4800
TR4410	031-594800-00	TR PHOTO PT4800
J4410	060-405124-99	SOCKET 006216023100 5P
J4411	060-405123-99	SOCKET 006216023808 5P

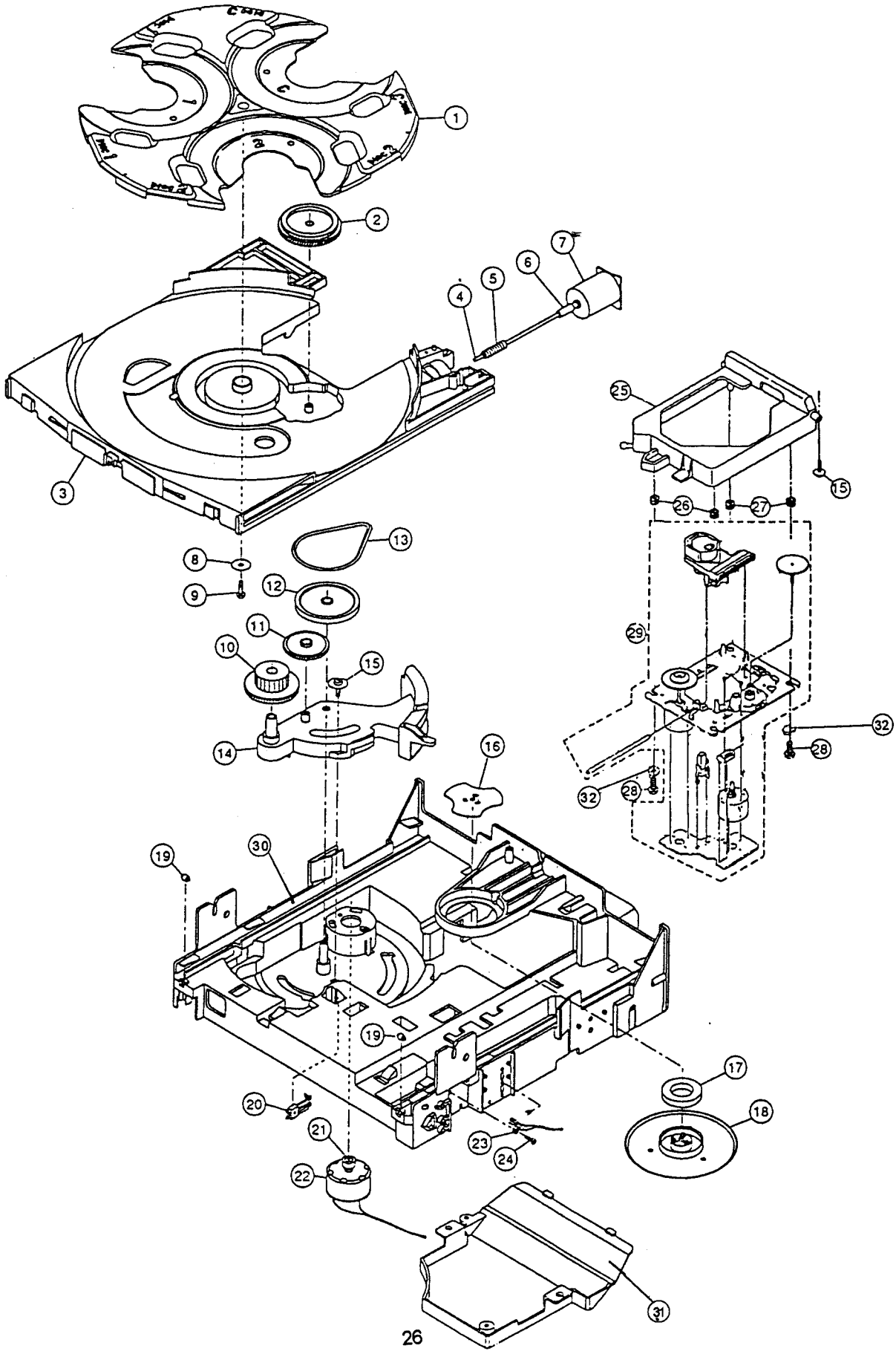
8. ACCESSARY

REF. NO.	PART No.	DESCRIPTION
1	790-010101-01	REMOCON RC-S610
2	790-010102-01	REMOCON RC-S510

9. CD MECHANISM

REF. NO.	PARTS NO.	DESCRIPTION
1	229-385602-01S	HOLDERDISC
2	288-385601-01Z	GEAR WORMWHEEL TABLE
3	220-385602-01S	TRAY LOADING
4	438-385601-01	SHAFT
5	288-385604-01Z	WORM
6	239-385601-01Z	JOINT
7	743-037012-54	MOTOR PF-370CA-15370 12V
8	634-150030-08	PW30X150X080 THK
9	619-300208-00	TAPING SCREW 3X1.25X8mm
10	288-385605-01Z	GEAR LOADING (A)
11	288-385606-01Z	GEAR LOADING(B)
12	288-385602-01Z	PULLEY GEAR
13	334-385604-01	BELT LOADING
14	288-385603-01S	HOLDER GEAR
15	615-300308-00	BW/T 3X8mm
16	428-385603-01	PLATE CLAMPER
17	489-383801-01	MAGNET DISC CLAMP
18	229-385606-01S	CLAMPER
19	259-385602-01Z	ROLLER
20	047-102127-00	LEAF SWITCH LSA-2127E
21	243-385601-01Z	PULLEY
22	743-050009-54	MOTOR RF-500TB-14415 D/V
23	047-101119-01	LEAF SWITCH ISA-1119H
24	610-260208-10	R/T 2.6X8mm
25	220-385601-01S	HOLDER TRAVERSE
26	334-385606-01	INSULATOR
27	334-385606-01	INSULATOR
28	610-200216-00	SELF-SCREW TAPING B/T 2.0X16
29	747-021301-02	MECHA TRAVERSE KSM213CCM
30	220-385603-01R	CHASSIS MAIN
31	219-385601-01Z	CD MECH COVER
32	634-100027-05	METAL WASHER 10X2.7X0.5

CD MECHANISM BLOCK



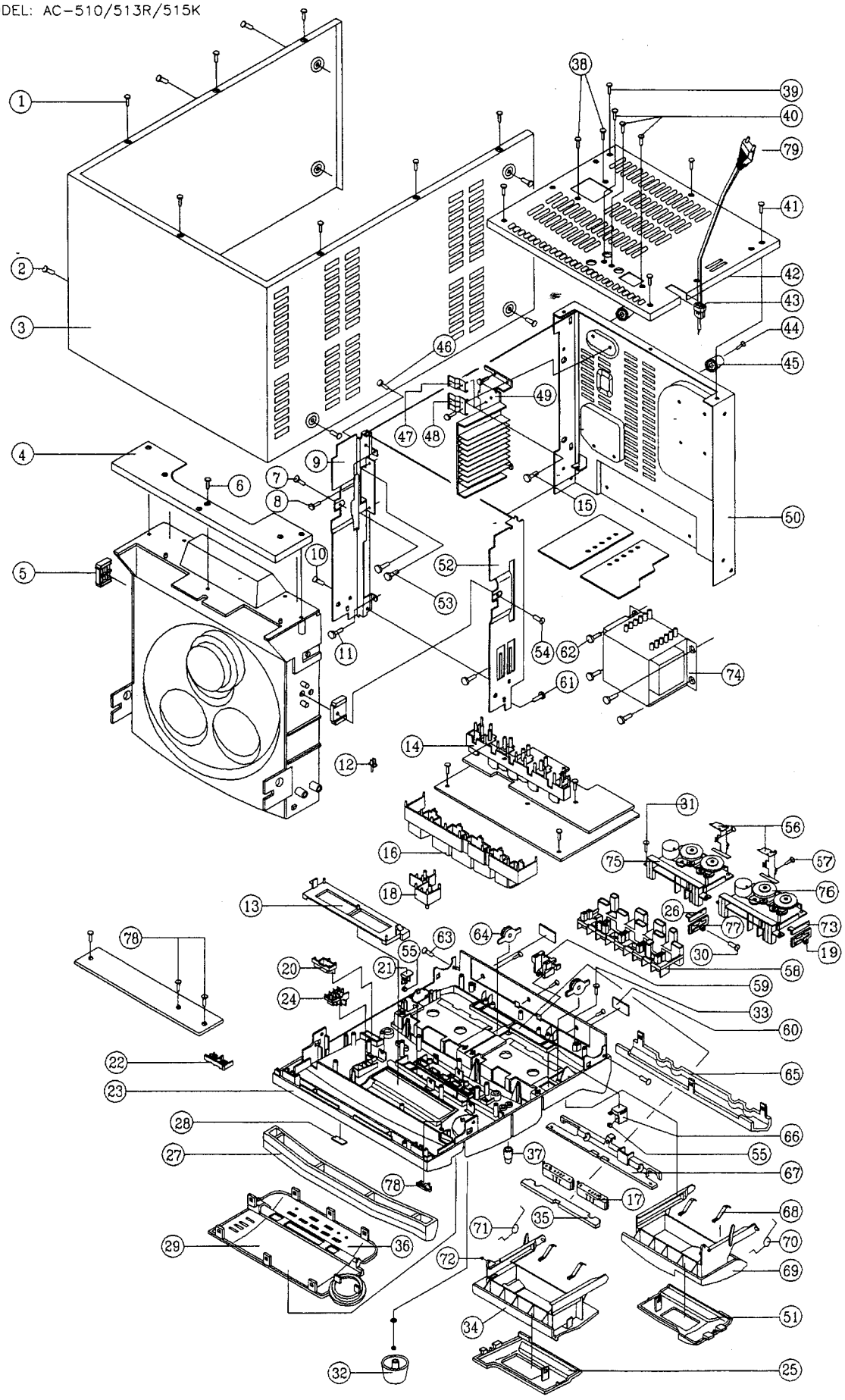
10. AC-510/513R/515K

REF. NO.	PARTS NO.	DESCRIPTION
1	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
2	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
3	402-385002-01	MAIN COVER BLACK
4	495-385017-01	REAR CABINET SUB
5	284-385001-01R	MECH SPACER BLACK HI-PS
6	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
7	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
8	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
9	428385001-01	CD BRACKET ' L '
10	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
11	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
12	292-385002-01S	DOLABY BUTTON (A)
13	229-385011-01R	FLD BRACKET HI-PS
14	291-385014-01S	FUNCTION BUTTON ABS
15	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
16	291-385005-01Z	CD FUNCTION BUTTON (B) ABS+PC
17	250-385001-01S	LAMP HOLDER WHITE ABS
18	292-385001-01S	REC BUTTON BLACK ABS
19	259-385004-01Z	INTERLOCK ' R ' POM
20	291-385001-01S	POWER BUTTON BLACK ABS
21-a	229-385006-01Z	LATCH BRACKET BLACK POM
21-b	229-385001-01Z	LATCH BRACKET (L) POM
22	291-385002-01S	CD FUNCTION BUTTON (A)
23-a(AC-510)	200-385011-02R	FRONT CABINET HI-PS
23-b(AC-513R)	200-385011-04R	FRONT CABINET HI-PS
23-c(AC-515K)	200-385013-02R	FRONT CABINET HI-PS
24	275-385001-01S	TIMER BUTTON BLACK ABS
25	261-385001-01K	CASS DOOR LENS (L) SMOKE
26	259-385001-01S	INTERLOCK HOLDER ' L ' ABS
27	219-385002-01R	CD DOOR HI-PS
28	286-385001-01S	NAME PLATE ' AKAI '
29	263-385001- 01K	DISPLAY LENS AS
30	601-264506-60A	TAPPING SCREW FLAT HEAD 2.6X6MM
31	619-300312-00	TAPPING SCREW P TYPE FLAT HEAD 3X6MM
32	273-385001-01S	VOLUME KNOB ABS
33	619-300306-00	TAPING SCREW P TYPE FLAT HEAD 3X6MM
34	211-385011-01S	CASS DOOR (L) HI-PS
35	263-385003-01L	DIR LENS CLEAR ACRYLIC
36	234-385011-01K	CONTORL SUB PANEL AS
37	273-385002-01S	MIC KNOB BLACK ABS
38	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
39	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
40	614-300208-00	SELF-TAPPING SCREW B/T 3X8MM BLACK
41	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
42-a(AC-510 E1,B1,E3)	495-385001-02	PANEL REAR
42-b(AC-510 S1)	495-385001-04	PANEL REAR
42c(AC-513R RE1)	495-385001-06	PANEL REAR
42-d(AC-515K U5,Y6)	495-385002-02	PANEL REAR
42-e(AC-515K U8,Y7)	495-385002-04	PANEL REAR
43	650-381301-01	CORD BUSHING
44	619-300408-00	TAPING SCREW B/T WASHER 3X8MM BLACK
45	207-385101-01Z	REAR FOOT (PLASTIC) BLACK EVA
46	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
47	428-385003-01	HOLDER BRACKET SECC-E20 T=1
48	428-385001-01	HOLDER BRACKET (H)

49	481-385101-01	HEAT SINK (H)
50	493-385102-01	METAL BOTTOM CABINET
51	261-385002-01K	CASS DOOR LENS (R) SMOKE
52	428-385002-01	CD BRACKET ' R '
53	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
54	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
55	477-385011-01	LATCH PUSH SPRING
56	483-385001-01	DECK SHIELD COVER
57	604-264501-00A	TAPPING SCREW C TYPE BID 2.6X5MM
58	229-385014-01S	LED BRACKET WHITE ABS
59	229-385007-01S	HOLDER LID BRACKET BLACK ABS
60	330-385001-01	FRONT CUSHION FOOT
61	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
62	602-407008-60A	TAPPING SCREW P TYPE WASHER H 4X8MM
63	619-300212-00	TAPPING SCREW P TYPE BID H 3X12MM
64	703-385002-01	DAMPER DA-60W/W (105) ASSEMBLY
65	263-385002-01K	DECK DIR LENS AS
66-a	229-385006-01Z	LATCH BRACKET BLACKPOM
66-b	229-385002-01Z	LATCH BRACKET (R) POM
67	229-385003-01S	DECK DIR BLACK ABS
68	470-385001-01	CASS DOOR SPRING SHEET
69	211-385012-01S	CASS DOOR (R) HI-PS
70	471-385012-01	CASS DOOR SPRING WIRE (R)
71	471-385011-01	CASS DOOR SPRING WIRE (L)
72	259-385005-01S	STUD (BOSS LID) BLACK ABS
73	259-385002-01S	INTERLOCK HOLDER ' R ' ABS
74-a(AC-510/513R)	001-863851-42	⚠ POWER TRANSFORMER C1048E
74-b(AC-515K)	001-863851-02	⚠ POWER TRANSFORMER C1048-U
75	741-490065-09	LOGICAL CONTROL DECK MECHA CMAL2Z065A
76	471-490066-09	LOGICAL CONTROL DECK MECHA CMAL2Z066A
77	259-385003-01Z	INTRLOCK ' L ' POM
78	619-300306-00	TAPINET SCREW P TYPE FLAT HEAD 3X6MM
79-a(except B1,Y6,S1)	071-669078-00A	⚠ AC LINE CORD VDE
79-b(B1,Y6)	071-449078-20	⚠ AC LINE CORD BS
79-c(S1)	071-559078-10	⚠ AC LINE CORD SAA

FINAL ASSEMBLY BLOCK

MODEL: AC-510/513R/515K



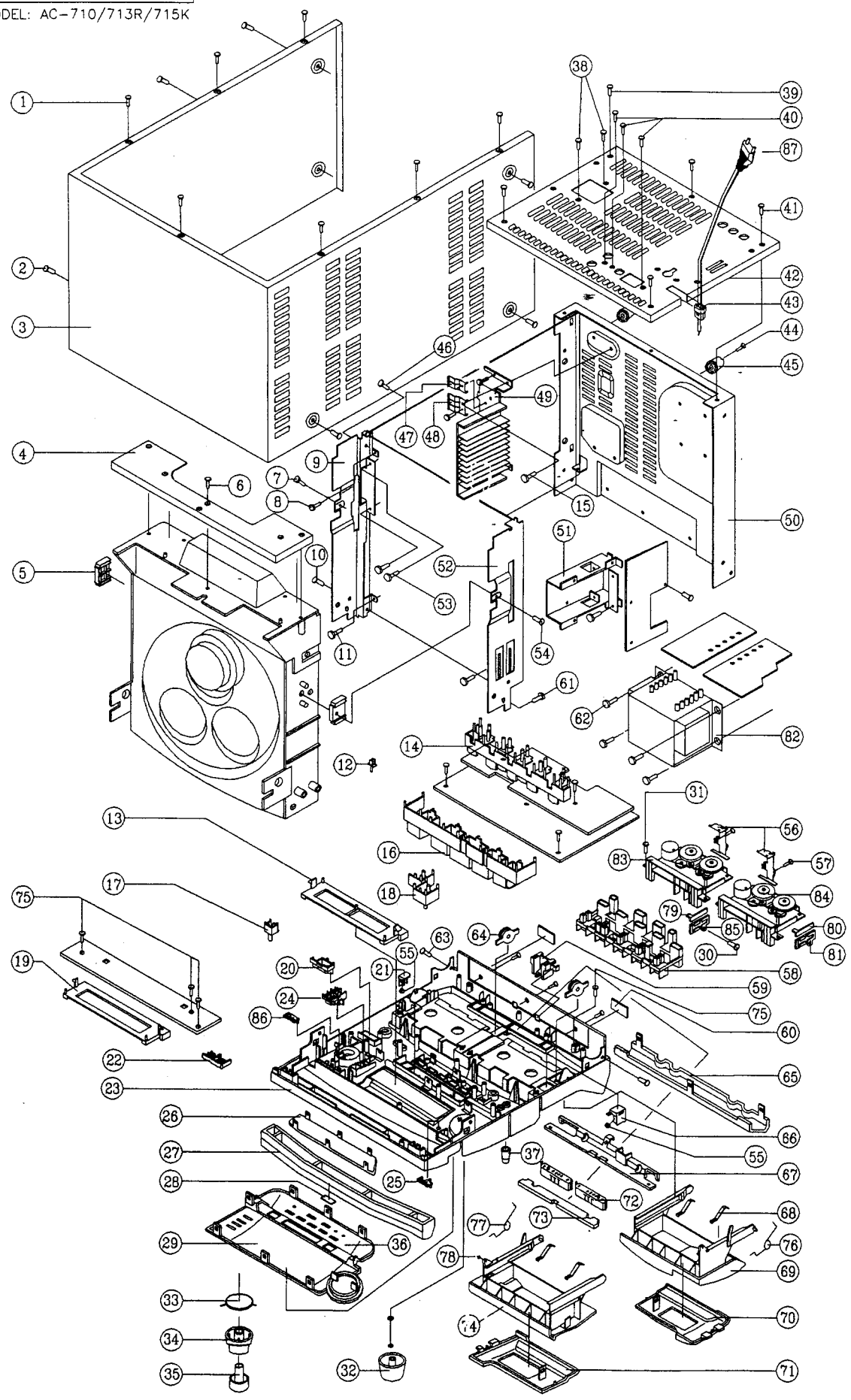
11. AC-710/713R/715K

REF. NO.	PARTS NO.	DESCRIPTION
1	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
2	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
3	402-385002-01	MAIN COVER BLACK
4	495-385017-01	REAR CABINET SUB
5	284-385001-01R	MECH SPACER BLACK HI-PS
6	619-300208-00	TAPING SCREW P TYPE BID H 3X8MM BLACK
7	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
8	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
9	428-385001-01	CD BRACKET 'L'
10	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
11	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
12	292-385002-01S	DOLABY BUTTON (A)
13	229-385011-01R	FLD BRACKET HI-PS
14	291-385014-01S	FUNCTION BUTTON ABS
15	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
16	291-385005-01Z	CD FUNCTION BUTTON (B) ABS+PC
17	292-385002-01S	DOLBY BUTTON (A) ABS
18	292-385001-01S	REC BUTTON BLACK ABS
19	229-385201-01R	FLD BRACKET HI-PS
20	291-385001-01S	POWER BUTTON BLACK ABS
21-a	229-385006-01Z	LATCH BRACKET BLACK POM
21-b	229-385001-01Z	LATCH BRACKET (L) POM
22	291-385002-01S	CD FUNCTION BUTTON (A)
23-a(AC-710)	200-385211-01R	FRONT CABINET HI-PS
23-b(AC-713R)	200-385211-02R	FRONT CABINET HI-PS
23-c(AC-715K)	200-385212-01R	FRONT CABINET HI-PS
24	275-385001-01S	TIMER BUTTON BLACK ABS
25	291-385003-01S	BALANCE BUTTON BLACK ABS
26	263-385201-01K	PRO DISPLAY LENS WINE SMOKE 'P-95012' AS
27	219-385002-01R	CD DOOR HI-PS
28	286-385001-01S	NAME PLATE 'AKAI'
29	263-385001-01K	DISPLAY LENS AS
30	601-264506-60A	TAPPING SCREW FLAT HEAD 2.6X6MM
31	619-300312-00	TAPPING SCREW P TYPE FLAT HEAD 3X6MM
32	273-385001-01S	VOLUME KNOB ABS
33	477-385211-01	PRO TORSION SPRING
34	292-385201-01S	PRO LOGIC KNOB BLACK ABS
35	292-385212-01S	ON/OFF BUTTON MILKY WHITE 'SAA' - 5409T'
36	234-385011-01K	CONTORL SUB PANEL AS
37	273-385002-01S	MIC KNOB BLACK ABS
38	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
39	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX8MM
40	614-300208-00	SELF-TAPPING SCREW B/T 3X8MM BLACK
41	606A301208-00	TAPING SCREW P TYPE BID H 3X1.25PX3MM
42-a(AC-710 E1,B1,E3)	495-385003-01	PANEL REAR
42-b(AC-710 S1)	495-385003-02	PANEL REAR
42-c(AC-713R RE1)	495-385003-03	PANEL REAR
42-d(AC-710K U5,Y6)	495-385004-01	PANEL REAR
42-e(AC-715K U8,Y7)	495-385004-02	PANEL REAR
43	650-381301-01	CORA BUSHING
44	619-300408-00	TAPING SCREW BT WASHER H 3X8MM BLACK
45	207-385101-01Z	REAR FOOT (PLASTIC) BLACK EVA
46	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
47	428-385003-01	HOLDER BRACKET SECC-E20 T=1
48	428-385101-01	HOLDER BRACKET (H)

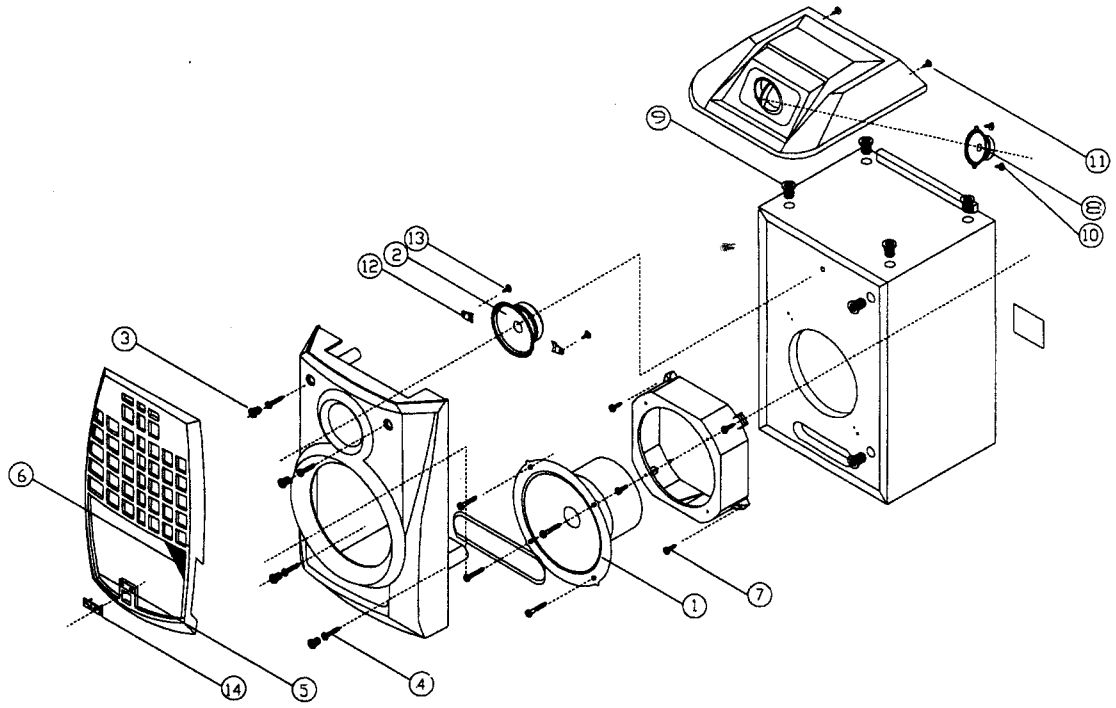
49	481-385101-01	HEAT SINK (H)
50	493-385102-01	METAL BOTTOM CAB
51	481-385201-01	HEAT SINK (SUB)
52	428-385002-01	CD BRACKET ' R'
53	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
54	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
55	477-385011-01	LATCH PUSH SPRING
56	483-385001-01	DECK SHIELD COVER
57	604-264501-00A	TAPPING SCREW C TYPE BID H 2.6X5MM
58	229-385014-01S	LED BRACKET WHITE ABS
59	229-385007-01S	HOLDER LID BRACKET BLACK ABS
60	330-385001-01	FRONT CUSHION FOOT
61	619-300208-00	TAPPING SCREW P TYPE BID H 3X8MM BLACK
62	602-407008-60A	TAPPING SCREW P TYPE WASHER H 4X8MM
63	619-300212-00	TAPING SCREW P TYPE BID H 3X12MM BLACK
64	703-385002-01	DAMPER DA-60W/W (105) ASSEMBLY
65	263-385002-01K	DECK DIR LENS AS
66-a	229-385006-01Z	LATCH BRACKET BLACK POM
66-b	229-385002-01Z	LATCH BRACKET (R) POM
67	229-385003-01S	DECK DIR BKT BLACK ABS
68	470-385001-01	CASS DOOR SPRING SHEET
69	211-385012-01S	CASS DOOR (R) HI-PS
70	261-385002-01K	CASS DOOR LENS (R) SMOKE
71	261-385001-01K	CASS DOOR LENS (L) SMOKE
72	250-385001-01S	LAMP HOLDER WHITE ABS
73	263-385003-01L	DIR LENS CLEAR ACRYLIC
74	211-385011-01S	CASS DOOR (L) HI-PS
75	619-300306-00	TAPING SCREW P TYPE FLAT HEAD 3X6MM
76	471-385012-01	CASS DOOR SPRING WIRE (R)
77	471-385011-01	CASS DOOR SPRING WIRE (L)
78	259-385005-01S	STUD (BOSS LID) BLACK ABS
79	259-385001-01S	INTERLOCK HOLDER 'L' ABS
80	259-385002-01S	INTERLOCK HOLDER 'R' ABS
81	259-385004-01Z	INTERLOCK 'R' POM
82-a(AC-710/713R)	001-953852-42	⚠ POWER TRANSFORMER C1049-E
82-b(AC-715K)	001-663852-42	⚠ POWER TRANSFORMER C1049-U
83	741-490065-09	LOGICAL CONTROL DECK MECHA CMAL2Z065A
84	471-490066-09	LOGICAL CONTROL DECK MECHA CMAL2Z066A
85	259-385003-01Z	INTERLOCK 'L' POM
86	291-385201-01S	MODE BUTTON BLACK ABS
87-a(except B1,Y6,S1)	071-669078-00A	⚠ AC LINE CORD VDE
87-b(B1,Y6)	071-449078-20	⚠ AC LINE CORD BS
87-c(S1)	071-559078-10	⚠ AC LINE CORD SAA

FINAL ASSEMBLY BLOCK

MODEL: AC-710/713R/715K

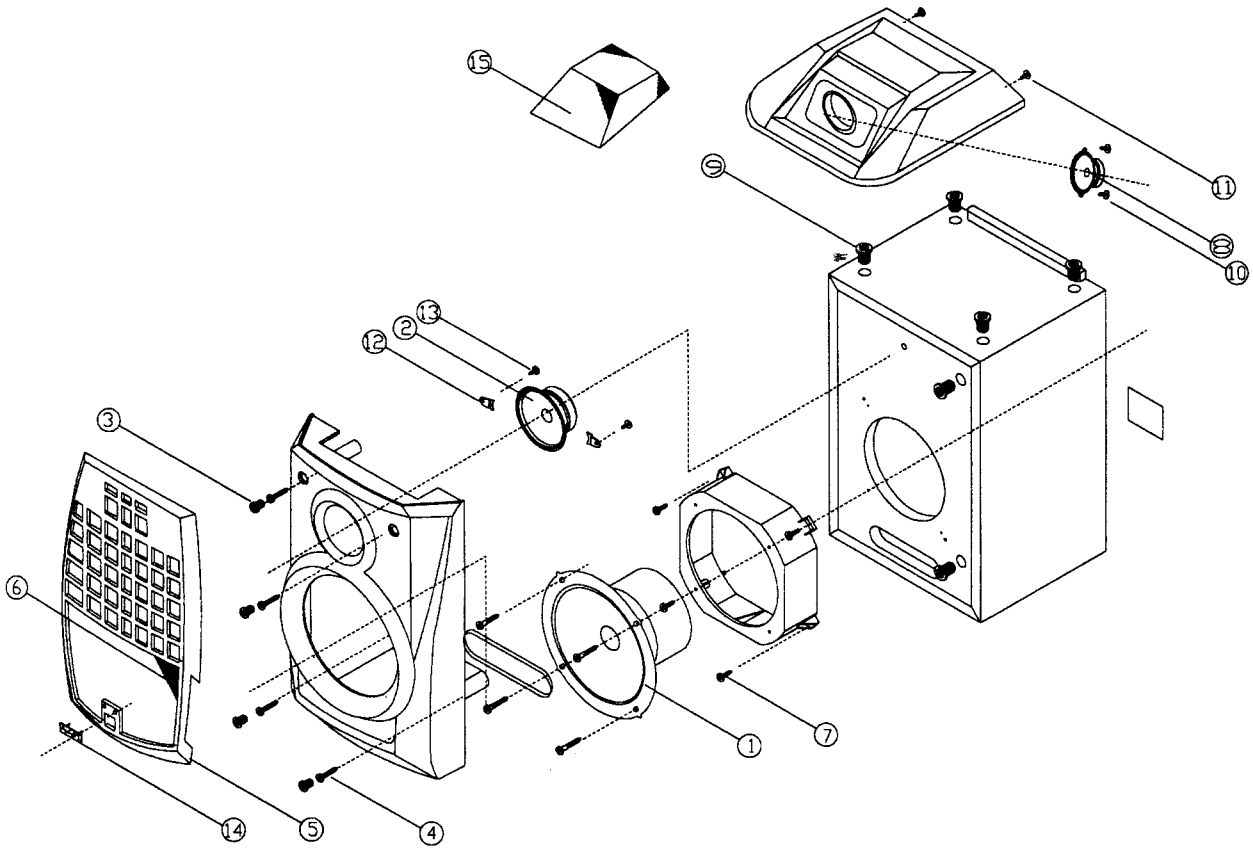


12. SPEAKER SYSTEM (SR-510)



REF. NO	PART NO	DESCRIPTION
1	066-959054-ST	BASS SPEAKER 5 1/4" 6Ω 100-160W
2	066-272221-WT	MEDIA SPEAKER 2 1/2 8Ω 80-120W
3	259-050201-01Z	CUSHION FOR SPEAKER BOX BLK S.B.R
4	610-350220-10	SELF-TAPPING SCREW R/T 3.5X20 WHITE
5	239-050501-01R	ADAPTOR BLK PS
6	583-050501-00F	SPEAK CLOTH (BLACK)
7	614-400216-30	SELF-TAPPING SCREW R/T 4.0X16 BLACK
8	066-288220-WT	TREBLE SPEAKER 2 8Ω 80-120W
9	259-381301-01	CUSHION FOR SPEAKER BOX BLK RUBBER
10	612-300106-10	SELF-TAPPING SCREW 3X6MM WHITE
11	611-300210-30	SELF-TAPPING SCREW 3X10MM PLATING BLK
12	462-333202-01	SPEAKER CLIP
13	612-300210-10	SELF-TAPPING SCREW 3X10MM WHITE
14	286-385002-01S	NAME PLATE FOR AKAI SPK BLK ABS

13. SPEAKER SYSTEM (SR-710)



REF. NO	PART NO	DESCRIPTION
1	066-959054-ST	BASS SPEAKER 5 1/4" 6Ω 100-160W
2	066-272221-WT	MEDIA SPEAKER 2 1/2 8Ω 80-120W
3	259-050201-01Z	CUSHION FOR SPEAKER BOX BLK S.B.R
4	610-350220-10	SELF-TAPPING SCREW R/T 3.5X20 WHITE
5	239-050501-01R	ADAPTOR BLK PS
6	583-050501-00F	SPEAK CLOTH (BLACK)
7	614-400216-30	SELF-TAPPING SCREW R/T 4.0X16 BLACK
8	066-289020-WT	TREBLE SPEAKER
9	259-381301-01	CUSHION FOR SPEAKER BOX BLK RUBBER
10	612-300106-10	SELF-TAPPING SCREW 3X6MM WHITE
11	611-300210-30	SELF-TAPPING SCREW 3X10MM PLATING BLK
12	462-333202-01	SPEAKER CLIP
13	612-300210-10	SELF-TAPPING SCREW 3X10MM WHITE
14	286-385002-01S	NAME PLATE FOR AKAI SPK BLK ABS
15	403-050601-01	SPK GRILL FOR AKAI (SR710)

XII. ABBREVIATIONS

TUNER

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AFC	Auto Frequency Control	MEMO	MEMOry
AGC	Auto Gain Control	MI-COM	MIcro-COMputer
ALC	Auto Level Control	MIN	MINimum
AM	Amplitude Modulation	MIX	MIXing
AMP	AMPlifier	MPX	MultiPleX
ANT	ANTenna	MW	Medium Wave(frequency)
BATT	BATTery	NC	No Connection
BLK	BLocK	NFB	Negative Feed Back
BUFF	BuFFer	OSC	OSCillator
COMP	COMParator	PCB	Printed Circuit Board
DET	DETect(DETector)	PLL	Phase Locked Loop
FLD	FLuorescent Display	Q.D	Quadrature Detector
FM	Frequency Modulation	Rch	Right channel
FREQ	FREQuency	REF	REFerence
GND	GrouND	REG	REGulator
H	High	RF	Radio Frequency
HPF	High Pass Filter	SEG	SEGment
IF	Intermediate Frequency	SELE	SELEctor
IHF	Institut of High Fidelity	SENS	SENSitivity
IND	INDicator	SIG	SIGnal
I/O	In/Out	S/N	Signal to Noise Ratio
JW	Jumper Wire	SSG	Standard Signal Generator
L	Low	STD	STanDard
LCD	Liquid Crystal Display	SW	Switch: Short Wave(frequency)
LCH	Left CHannel	THD	Total Harmonic Distortion
LED	Light Emitting Diode	TP	Test Point
LPF	Low Pass Filter	VCO	Voltage Controlled Oscillator
LW	Long Wave (Frequency)	VR	Variable Resistor
XTAL	Crystal		

COMPACT DISC

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital(Converter)	Mb	Mega Bits
ADC	Analog Code Decimal (Converter)	MDA	Mortor Drive Amplifier
BCD	Binaary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits Per Inch	MW	Mono-stable Multivibrator
CD	Compact Disc	M2FM	Modified Midified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
		MP	Microprocessor
CLV	Constant Linear Velocity	MSB	Most Significant Bit
CP	Clock Pulses	NA	Numerical Aperture
CRCC	Cyclic Redundancy Check Codes	NRZ	Non Return to Zero
D Level	Decision Level	NRZ-I	Non Return to Zero Inverted
D-A	Digital to Analog(Converter)	P	Parity Data
DAC	Digital to Analog(Converter)	PAM	Pulse Amplitude Modulation
DAD	Digital Audio Disc	PCM	Pulse Code Modulation
DEM	Dynamic Element Matching	PD	Phase Detector
DPD	Differential Phase Detection	PE	Phase Encode
DSV	Digital sum Value	PLL	Phase locked Loop
EFM	Eight to Fourteen Modulation	PNM	Pulse Number Modulation
EX-OR	Exclusive OR	PPM	Pulse Phase Modulation
FCI	Flux Changes per Inch	PWM	Pulse Width Midulation
FIR	Finite Impulse Response	Q	Parity Data
FP	Front Pluse	R,R1,R2,ect.	Data for Right Channel
FPG	Front Pluse Gate	RAM	Random Access Memory
F	Frequency of Sampling	RPG	Rear Pulse Gate
GF	Galois Field	SCOOP	Self Coupled Optical Pick-up
H&V(Parity)	Horizonal & Veertical	S&H	Sample & Hold
IIR	Infinite Impulse Response	S/N	Signal to Noise Ratio
KB	Kilo Bits	SSG	Standard Signal Generator
L,L1,L2,ect.	Data for Left Channel	SYSCON	SYStem CONtrol
LPF	Low Pass Filter		
LSB	Least Significant Bit		

CASSETTE

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	MIN	MINite
A/D	Analog/Digital	MML	Maximum Modulation Level
AF	Auto Fader	MOL	Maximum Output Level
AMP	AMPlifier	MPX	MultiPlex
AR	Anti Recording	NC	Not connected (No Connection)
AT BIAS	Auto Turning BIAS	NFB	Negative Feed Back
ATT	ATTenuator	NORM	NORMal
BAL	BALance	NR	Noisse Reduction
BEFB	and Elimination Filter	OSC	OSCillator (OSCillation)
BSS	Blank Search System	P	Pulse
CAPM	CAPstan Motor	PB	Play Back
CH	CHannel	QMSS	Quick Memory Search Syatem
COMP	CoMParator	OR	Quick Reverse
CONT	CONTinuance	RCH	Right CHannel
CRLP	Computer Recording Level	REC	RECord (RECording)
	Processing	REV	REVerse
CS	Chip Select	ROT	ROTation
D/A	Digital/Analog	REW	REWind
DC	Direct Current	SEC	SECond
DET	DETector	SELE	SELEctor
DISCRU	DISCRIminator	SENS	SENSitivity
DUB	DUBbing	SEPP	Single Ended Push Pull
EQ	EQualizer	SIG	SIGnal
FF or (F.FWD)	Fast Foward	SPECT	SPECTrum
FLD	FLuoresent Display	STD	STanDard
FREQ	FREQuency	SW	SWitch
FWD	ForWarD	SYS	CONSYStem CONtrol
GND	GrouND	TP	TEST Point
H	High	TRIG	TRIGa
HPF	High Pass Filter	VCA	Voltage Control Attenuator
IND	INDicator	VOL	Volume
IPLS	Instant Program Location System	VOLT	VOLTage
L	Low	VR	Variable Resistor
LCH	Left Channel	XTAL	crysTAL
LEDLight	Emitting Diode	X1	Normal speed
MEMO	MEMOry	X2	Dubble speed
MICOM	MIcroCOMputer		

AMPLIFIEER

ABBREVIATION	EXPLANATION
A	Analog
AC	Alternating Current
AMP	AMPlifier
CD	Compact Disc
COM	COMmon
D	Digital
D/A	Digital to Analog
DAC	Digital to Analog Converter
DAT	Digital Audio Tape recorder
DC	Direct Current
GND	GrouNd
L	Left
LED	Light Emitting Diode
MC	Moving Coil
MM	Moving Magnet
PCB	Printed Circuit Board
R	Right
REG	REGulator
REC	RECord
TR	TRansistor
SW	SWitch
V.AMP	Voltage AMPlifier
V.DISC	Video DISC
VR	Variable Resistance
VTR	Video Tape Recorder

AKAI

MODEL AC-510, 513R, 515K
MODEL AC-710, 713R, 715K

SCHEMATIC DIAGRAMS AND PC BOARDS

TABLE OF CONTENTS

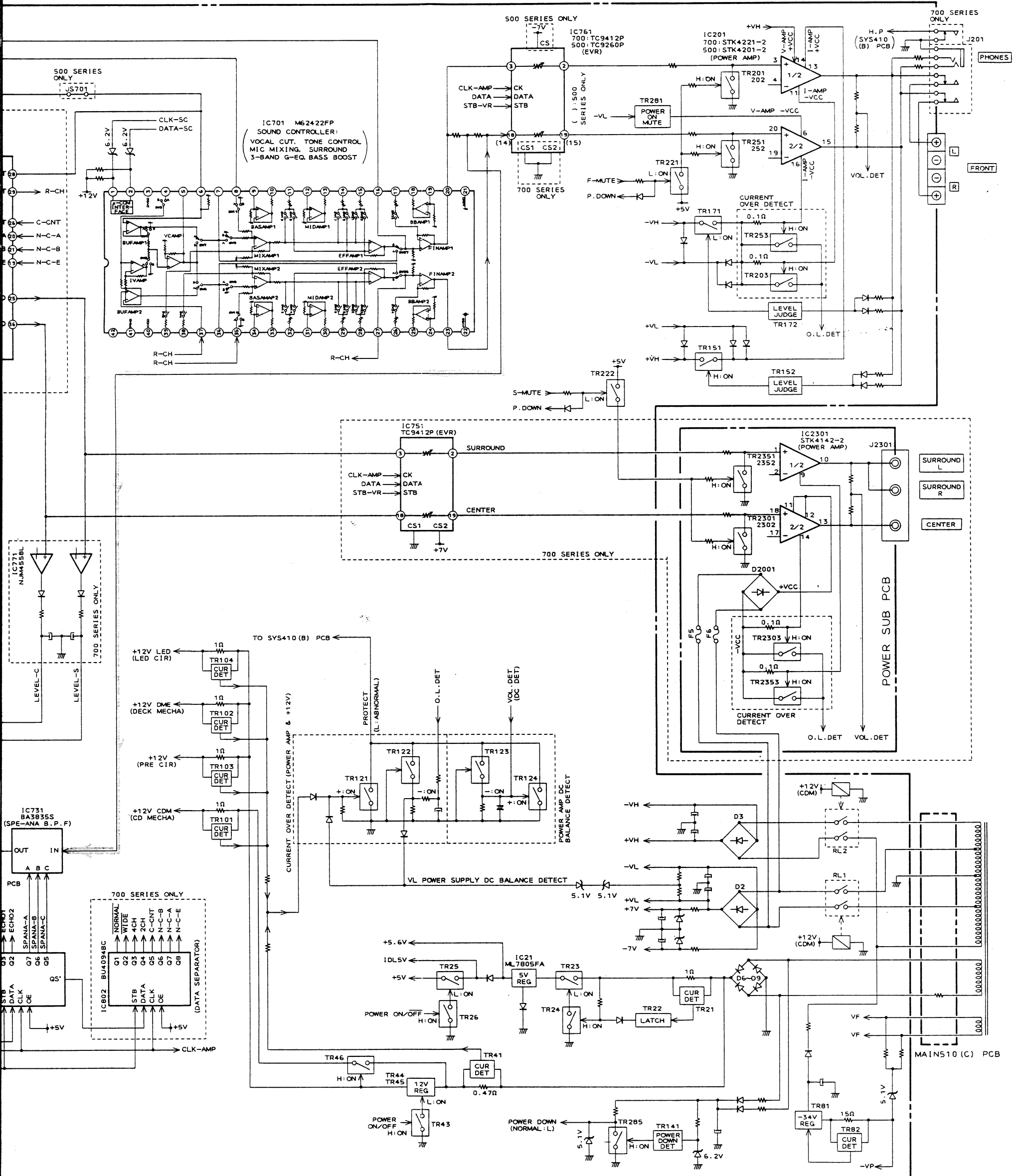
I. BLOCK DIAGRAMS
1. MAIN 3
2. CD 4
3. TUNER / DECK 5

II. SCHEMATIC DIAGRAMS AND PC BOARDS
1. CONNECTION DIAGRAM 6
2. MAIN 8
3. SYSTEM CONTROL 10
4. DECK/CD/TUNER 12
5. POWER-SUB (AC-710, 713R, 715K) 14

III. INFORMATION OF ICs 15

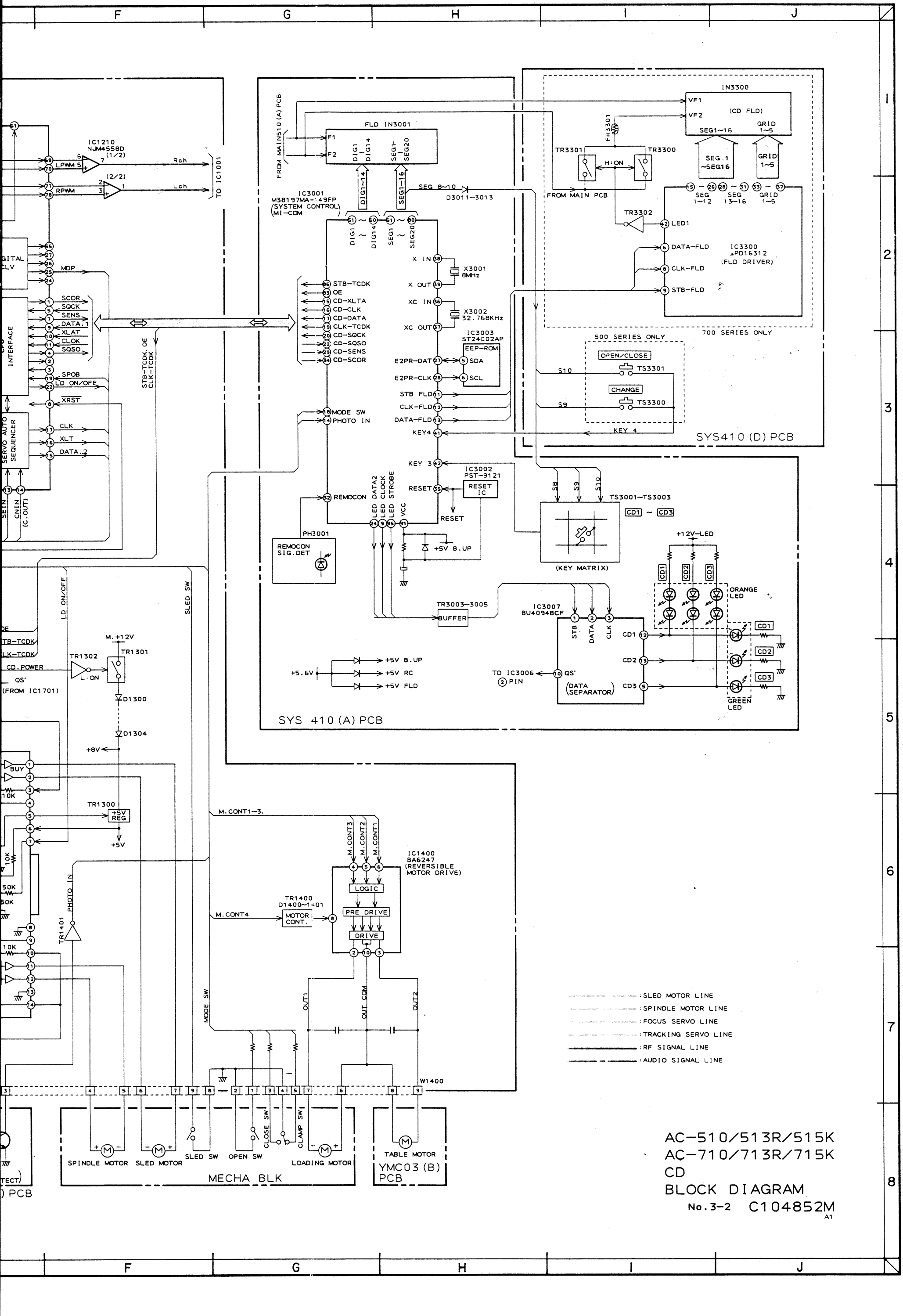
Use these schematic diagrams and PC boards together with the provided service manual.

A
B
C
D
E
1
2
3
4
5
6
7
8
J1001
AUX
L
R
R-CH
TAPE DECK
TUNER
CD
IC1001
MC14052BCP
0Y
1Y
2Y
3Y
YC
A
B
IC1002 (1/2)
NJM4558L
SEL.A
SEL.B
TC-DK (A) PCB
IC3004
TA2011S
MIXING
(MIC AMP)
VR3001
MIC 1
MIC 2
515K, 715K ONLY
SYS410 (A) PCB
MIC ON/OFF
PROTECT
H.P
S5
TR3123
TR3122
TR3121
K3
K2
K1
SYS410 (B) PCB
IC581 (1/2)
NJM4558L
IC581 (2/2)
R-CH
715K ONLY
TR539
DELAY
H:ON
JS551
515K ONLY
515K
715K
ONLY
TR540
L:ON
DELAY
JS502
710, 713R
ONLY
LPF
TR534
ECHO1
ECHO2
515K, 715K ONLY
DELAY
TR531
TR551
TR552
TR532
TR533
TR536
JS552
TR535
4.7K
LPF1
COMP
OP1
MOD
DEM
OP2
LPF2
REF
1/2 VCC
AUTO RESET
OSCILLATOR
D1
RESET
CLOCK
DO0
DO1
MAIN CONTROL
DELC
MO
M1
10K SRAM
IC501 M65843AFP
(DIGITAL ECHO)
EXCEPT 510, 513R
X551
400KHz
2M
L700
SERIES ONLY
TR537
TR538
JS553
JS501
710, 713R ONLY
700 SERIES ONLY
700 SERIES ONLY
5V
4CH H:ON
2CH H:ON
TR603
TR604
TR602
WIDE
L:ON
TR601
NORMAL
VREF
MODE-CNT
C-MODE
R-AB-I
L-AB-I
L OUT
R OUT
R-CH
C-CNT
N-C-A
N-C-B
N-C-E
IC602
NJM2177AF
(DOLBY PRO-LOGIC)
(DECODER)
S.O
C.O
7KHz LPF
NR-IN
SX-O
IC771
NJM4558L
LEVEL-C
LEVEL-S
IC731
BA3835S
(SPE-ANA B.P.F)
OUT
IN
A B C
TO TC-DK (A) PCB
SPANA
CLK-DSK
DATA-DSC
CLK-SC
DATA-SC
IC3001:
M38197MA-149FP
(OPERATION & SYSTEM)
(CONTROL MI-COM)
STB-VR
STB-AMP
DATA
CLK-AMP
OE
STB-PRE
POWER DOWN
IC101 BU4094BC
(DATA SEPARATOR)
IC801 BU4094BC
(DATA SEPARATOR)
POWER ON/OFF
F-MUTE
S-MUTE
DELAY
SEL-A
SEL-B
I-MUTE-S
ECHO1
ECHO2
SPANA-A
SPANA-B
SPANA-C
STB
DATA
CLK
OE
QS'
+5V
SYS410 (A) PCB
MAIN510 (A) PCB
NORMAL SIGNAL LINE (L-CH)
EFFECT SIGNAL LINE (DELAY & D.P.L)
MIC SIGNAL LINE
CENTER & SURROUND SIGNAL LINE



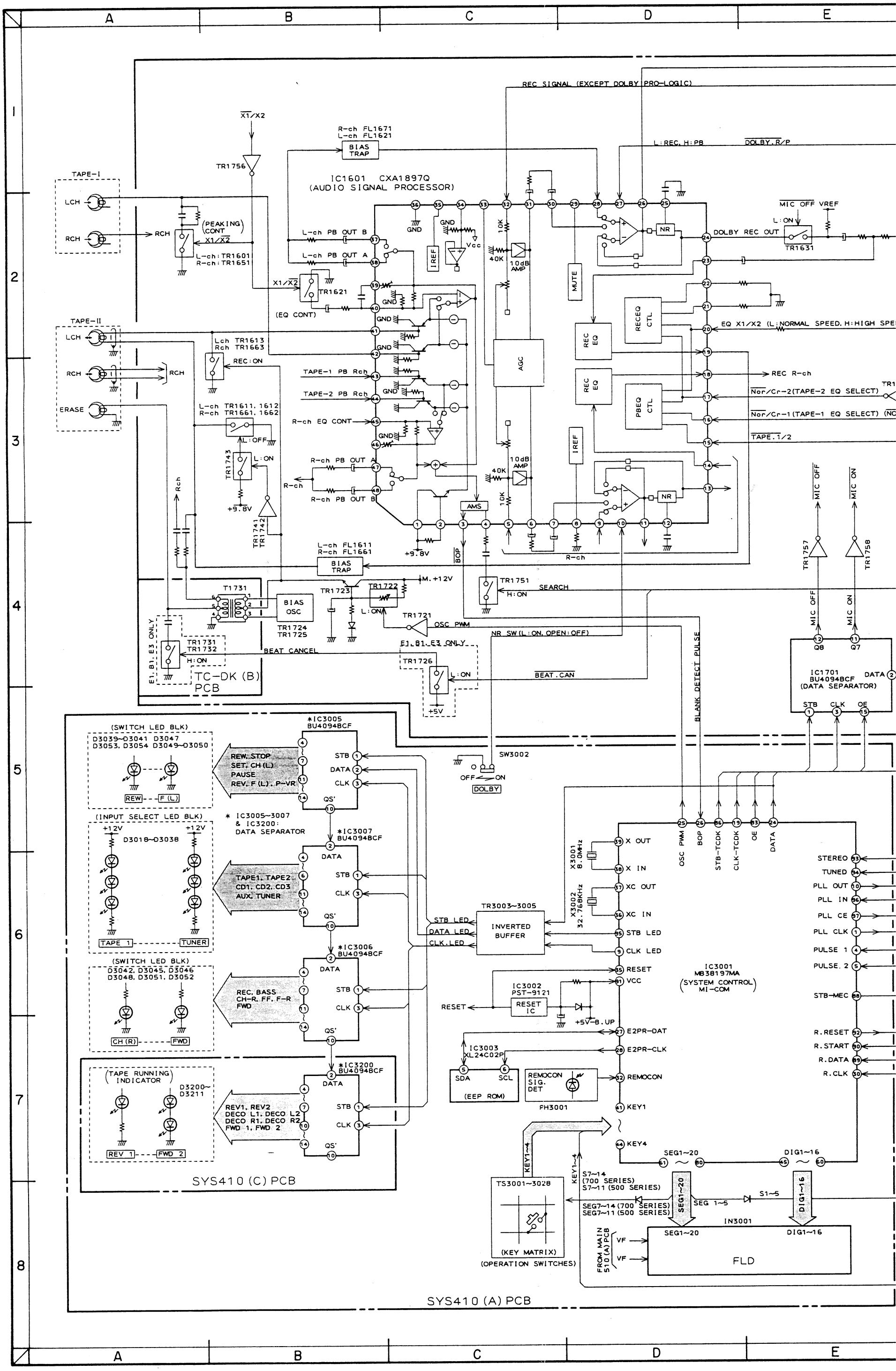
AC-510/513R/515K
AC-710/713R/715K
MAIN
BLOCK DIAGRAM
No.3-1 C104851M
A1

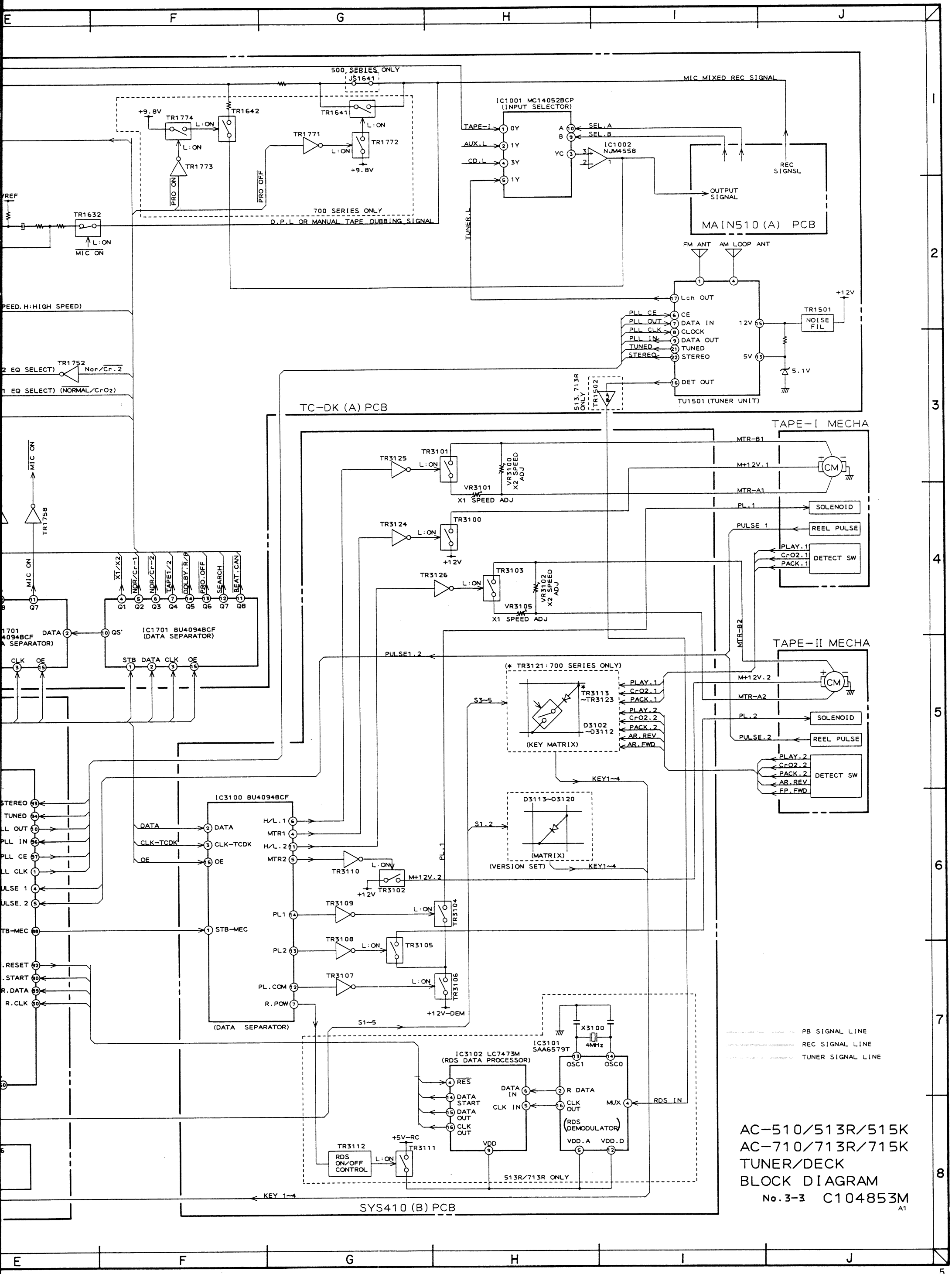
X1200
16.9344MHz
IC1200 CXD2508AQ
(DIGITAL SIGNAL PROCESSOR)
DIGITAL FILTER + 1BIT DAC
D/A INTERFACE
DIGITAL OUT
DIGITAL CLV
ERROR CORRECTOR
16K RAM
EFM DEMODULATOR
SUB CODE PROCESSOR
CPU INTERFACE
CLOCK GENERATOR
ASYMMETRY CORRECTOR
DIGITAL PLL
SERVO AUTO SEQUENCER
SLED SW
RF
FOK
SEIN
CNIN
(C.OUT)
IC1100
CXA1782BQ
(RF I-V AMP/RF AMP)
FOCUS DRIVE
FS4
DFCT
FS2
FS1
F SET
TG2
TA-M
TA-O
ATSC
WINDOW COMP.
TM1
FCS PHASE COMPENSATION
TM7
TM3
TM4
TM2
TM5
TM6
SL-O
I SET
TZC COMP
TG1
TRACKING PHASE COMPENSATION
TRACKING DRIVE
HPF COMP
LPF COMP
TE AMP
E IV AMP
F IV AMP
FE AMP
FZC COMP
+5V
CLK
XLT
DATA.2
XRST
C.OUT (CNIN)
SENS
OUTPUT DECODER
IIL DATA REGISTER
INPUT SHIFT REGISTER
ADDRESS.DECODER
FE-BIAS
VR1200
FOCUS OFF-SET
RF IV AMP2
RF IV AMP1
APC
LEVEL S
MIRR
DFCT
FOK
RF-O
VREF
PHD2
PHD1
PHD
LD
RF-M
RF-I
MONITOR
TR1100
PICK-UP KSS-213C
FOCUS COIL
TRACKING COIL
M.CONT1
M.CONT2
M.CONT3
M.CONT4
XSRT
IC1702
BU4094BCF
(DATA SEPARATOR)
OE
STB
CLK
Q5
DATA
STB-TCDK
CLK-TCDK
CD.POWER
QS'
(FROM IC1701)
SLED DRIVE
IC1300 KA92580
(MOTOR DRIVE)
LEVEL SHIFT
BUY
10K
T.S.D
REGULATOR
MUTE
50K
+8V
MDP
W1401
(TURN TABLE POSITION DETECT)
YMC03 (A) PCB
TC-DK (A) PCB



AC-510/513R/515K
AC-710/713R/715K
CD
BLOCK DIAGRAM

No.3-2 C104852M
A1


REC SIGNAL (EXCEPT DOLBY PRO-LOGIC)
L:REC, H:PB
DOLBY.R/P
X1/X2
R-ch FL1671
L-ch FL1621
BIAS TRAP
TR1756
IC1601 CXA1897Q
(AUDIO SIGNAL PROCESSOR)
TAPE-I
LCH
RCH
(PEAKING) CONT
X1/X2
L-ch:TR1601
R-ch:TR1651
L-ch PB OUT B
L-ch PB OUT A
GND
IREF
Vcc
10K
40K
10dB AMP
MUTE
AGC
NR
DOLBY REC OUT
MIC OFF VREF
L:ON
TR1631
RECEQ CTL
REC EQ
PBEQ CTL
EQ X1/X2 (L:NORMAL SPEED, H:HIGH SPE
REC R-ch
Nor/Cr-2(TAPE-2 EQ SELECT)
Nor/Cr-1(TAPE-1 EQ SELECT) (NO
TAPE.1/2
TAPE-II
LCH
RCH
ERASE
Lch TR1613
Rch TR1663
REC:ON
L-ch TR1611, 1612
R-ch TR1661, 1662
L:OFF
L:ON
TR1743
+9.8V
TR1741
TR1742
Rch
TR1723
TR1722
M.+12V
L:ON
TR1721
OSC PWM
T1731
BIAS OSC
TR1724
TR1725
TR1731
TR1732
H:ON
E1, B1, E3 ONLY
BEAT CANCEL
TC-DK (B) PCB
TAPE-1 PB Rch
TAPE-2 PB Rch
R-ch EQ CONT
R-ch PB OUT A
R-ch PB OUT B
R-ch
AMS
BOP
L-ch FL1611
R-ch FL1661
BIAS TRAP
TR1751
SEARCH
H:ON
NR SW (L:ON, OPEN:OFF)
TR1726
L:ON
BEAT.CAN
+5V
MIC OFF
MIC ON
TR1757
TR1758
Q8
Q7
IC1701
BU4094BCF
(DATA SEPARATOR)
DATA
STB
CLK
OE
BLANK DETECT PULSE
SW3002
OFF ON
DOLBY
(SWITCH LED BLK)
D3039~D3041 D3047
D3053, D3054 D3049~D3050
REW
F (L)
*IC3005
BU4094BCF
REW, STOP
SET, CH (L)
PAUSE
REV, F (L), P-VR
QS'
* IC3005~3007
& IC3200:
DATA SEPARATOR
(INPUT SELECT LED BLK)
+12V
D3018~D3038
TAPE 1
TUNER
*IC3007
BU4094BCF
TAPE1, TAPE2
CD1, CD2, CD3
AUX, TUNER
(SWITCH LED BLK)
D3042, D3045, D3046
D3048, D3051, D3052
CH (R)
FWD
*IC3006
BU4094BCF
REC, BASS
CH-R, FF, F-R
FWD
(TAPE RUNNING INDICATOR)
D3200~
D3211
REV 1
FWD 2
*IC3200
BU4094BCF
REV1, REV2
DECO L1, DECO L2
DECO R1, DECO R2
FWD 1, FWD 2
SYS410 (C) PCB
TR3003~3005
INVERTED BUFFER
STB LED
DATA LED
CLK LED
X3001
8.0MHz
X3002
32.768KHz
X OUT
X IN
XC OUT
XC IN
RESET
VCC
IC3002
PST-9121
RESET IC
+5V-B.UP
E2PR-DAT
E2PR-CLK
REMOCON
KEY1
KEY4
IC3003
XL24C02P
SDA
SCL
(EEP ROM)
REMOCON SIG. DET
PH3001
IC3001
MB38197MA
(SYSTEM CONTROL MI-COM)
OSC PWM
BOP
STB-TCDK
CLK-TCDK
OE
DATA
STEREO
TUNED
PLL OUT
PLL IN
PLL CE
PLL CLK
PULSE 1
PULSE. 2
STB-MEC
R.RESET
R.START
R.DATA
R.CLK
KEY1~4
TS3001~3028
(KEY MATRIX)
(OPERATION SWITCHES)
S7~14
(700 SERIES)
S7~11 (500 SERIES)
SEG7~14 (700 SERIES)
SEG7~11 (500 SERIES)
SEG1~20
SEG 1~5
S1~5
DIG1~16
IN3001
FROM MAIN 510 (A) PCB
VF
VF
FLD
SYS410 (A) PCB



AC-510/513R/515K
AC-710/713R/715K
TUNER/DECK
BLOCK DIAGRAM

No.3-3 C104853M
A1

SYS410(D) PCB
(CD OPERATION)
C1047A503D
W3001
P3001
STB-FLD
CLK-FLD
DATA-FLD
+5V
VF1
VF2
-VP
GND-D
SEG 6
KEY1
KEY2
SYS410(C) PCB
(TAPE LED)
C1047A503C
J3033
W903
J3003
DATA-L1
STB-LED
CLK-LED
DATA-L2
GND-D
+12V-LED
WW3008
W3008
H.P
+12V-DEM
GND-M
PROTECT
KEY3
KEY4
CLK-TCDK
DATA
R-CLK
PULSE1
PULSE2
SYS410(A) PCB
(SYS FLD)
C1047A503A
P3011
VF1
VF2
POW-DOWN
STB-AMP
OE
STB-VR
DATA-SC
STB-PRE
DATA
+5.6V
GND-D
+12V-LED
-VP
CLK-SC
CLK-AMP
PROTECT
MIC-OUT
GND-S
GND-M
+12V-DME
HP
SPANA
LEVEL-S
LEVEL-C
710/713R/715K ONLY
TAPE I
MECHANISM BLOCK
W3010
MOTOR-A.1
MOTOR-B.1
GND-M
MTR+12V.1
PLAY.1
+5V
PULSE.1
PL.1
CrO2.1
PACK.1
PB HEAD
Lch
Rch
W905
SYS410(B) PCB
(MECHA CONTROL)
C1047A503B
WW3007
W3007
DATA-L1
CLK.LED
STB.LED
S5
S4
S3
S2
S1
R-RESET
R-START
R-DATA
STB-MEC
RDS-IN
OE
MIC.ON/OFF
TAPE II
MECHANISM BLOCK
W3009
MOTOR-A.2
MOTOR-B.2
GND-M
MTR+12V.2
PLAY.2
+5V
PULSE.2
PL.2
CrO2.2
PACK.2
AR, FWD
N.C
AR, REV
REC/PB HEAD
ERASE HEAD
P1005
PB (L)
GND
PB (R)
W904
P1004
REC (L)
REC (R)
ERASE
J3022
W902
J1002
STEREO
TUNED
PLL-OUT
PLL-IN
PLL-CE
PLL-CLK
PHOTO-IN
CD-XLAT
CD-CLK
CD-DATA
MODE-SW
CD-SQCK
CD-SQSO
CD-SCOR
CD-SENS
CLK-TCDK
STB-TCDK
OSC-PWM
BOP
RDS-IN
DOLBY-ON
TC-DK(A) PCB
C1047A502A
(TUNER/CD/DECK)
TC-DK(B) PCB
C1047A502B
W1400
WW1400
OPEN SW
GND
CLOSE SW
CLAMP SW
LOAD M+
LOAD M-
TABLE M-
TABLE M+
YMC03(B) PCB
(MOTOR)
C1047A505A
W4410
TC-DK(C) PCB
(RELAY)
P1400
P1401
PHOT DET
PHOT OUT
W941
J1100
VC
Vcc
PD E
PD D
PD A
PD B
PD C
PD F
LD
VR
PD
FCS (+)
TRK (+)
TRK (-)
FCS (-)
W900
PICK-UP
(KSS-213C)
WW4410
W940
W4412
J4410
J4411
YMC03(A) PCB
(SENSOR)
C1047A505A
YMC03(C) PCB
(RELAY)
C1047A505C

PHONES

SPEAKER

Lch

Rch

J201

TM201

710/713R, 715K ONLY

POWER-SUB (B) PCB
C1049A504B

POWER-SUB (A) PCB
C1049A504A

710/713/715 ONLY

CENTER CH

Lch

SURROUND

Rch

J2301

W302

P2302

CENTER	1	CENTER
GND S	2	GND S
SURRUND	3	SURRUND
GND S	4	GND S
S MUTE	5	S MUTE
O.I DET	6	O.I DET
VOL DET	7	VOL DET

P2301

P15

W915

W14

P13

W913

MAIN510 (A) PCB
(MAIN)
C1048A501A

J11

24	VF1	
23	VF2	
22	POW-DOWN	
21	STB-AMP	
20	OE	
19	STB-VR	
18	DATA-SC	
17	STB-PRE	
16	DATA	
15	+5.6V	
14	GND-D	
13	+12V-LED	
12	-VP	
11	CLK-SC	
10	CLK-AMP	
9	PROTECT	
8	MIC-OUT	
7	GND-S	
6	GND-M	
5	+12V-DME	
4	HP	
3	SPANA	
2	LEVEL-S	
1	LEVEL-C	

ONLY

P6

1	+12V-COM
2	GND-D
3	GND-M
4	+5V-IDOL
5	GND-S
6	REC-L
7	REC-R
8	GND-S
9	SOURCE-R
10	SOURCE-L
11	+12V-PRE
12	-7V
13	+7V
14	SEL-B
15	SEL-A
16	I-MUTE-S

W1006

+12V-COM, GND-D, GND-M, +5V-IDOL, GND-S, REC-L, REC-R, GND-S, SOURCE-R, SOURCE-L, +12V-PRE, -7V, +7V, SEL-B, SEL-A, I-MUTE-S

⚠ TRANS PRIMARY

123V
10V
123V
113V
0V
0V

U

W801
WA SDN L200 6P

6	WHT
5	YEW
4	BRN
3	BLU
2	RED
1	ORG

ONLY U5 U8 Y6 Y7

SW901
ESE-37311

TRANS PRIMARY ⚠

230V
120V

E

⚠ F2
⚠ F1

⚠ L801
LF-4D-102

P12

C801

DE0807
E102M-KH
250VAC

MAIN510 (B) PCB
C1048A501B

TRANS SECONDARY

P902
RTB-1.5-5P

WA913

W14

R4
0.47 1/2W
R5
0.47 1/2W

P14
B4B-PH WHT4P

T901

MAIN510 (C) PCB C1048A501C

	VERSION	F1	F2	POWER TRANS
510	E1, E3, B1	T2.0A	–	513R:C1048E
513R	S1	T2.0A	–	510 :C1048E
515K	U5, U8, Y6, Y7	T2.0A	T2.0A	515K:C1048U
710	E1, E3, B1	T2.5A	–	713R:C1049E
713R	S1	T2.5A	–	710 :C1049E
713K	U5, U8, Y6, Y7	T2.5A	T2.5A	715K:C1049U

K)

W1401

PHOT DET
GND
PHOT OUT
SPINDLE+
SPINDLE-
SLED-
SLED+
GND
SLEDIN SW

) PCB C1047A502C

P1401

1	OPEN SW
2	GND
3	CLOSE SW
4	GND
5	CLAMP SW
6	LOAD M+
7	LOAD M-

W941

P1402

1	SPINDLE+
2	SPINDLE-
3	SLED-
4	SLED+
5	GND
6	SLEDIN SW

W942

CD MECHA. BLOCK
(YMC-03)

J1001

Lch

AUX

Rch

TM1501

FM 75Ω

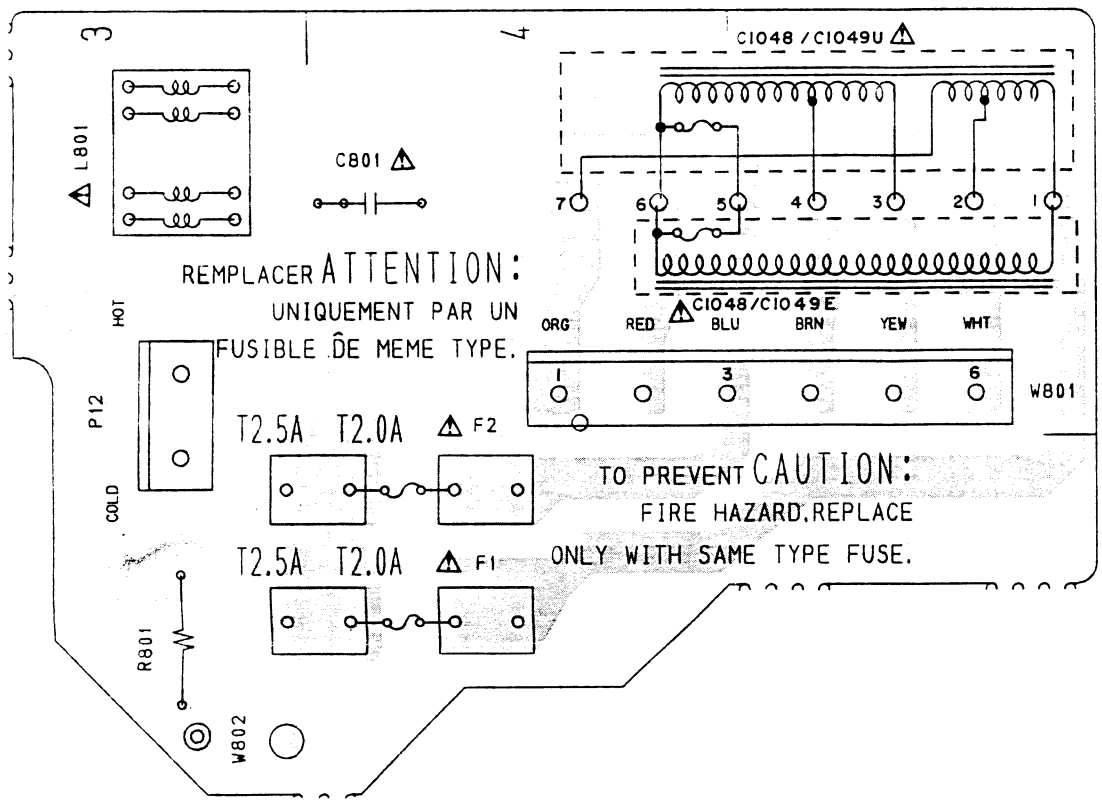
AM LOOP

WARNING: ⚠ AND [illegible] INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET [illegible], ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

AC-510/513R/515K
AC-710/713R/715K
CONNECTION DIAGRAM

No.5-1 C104801M
A1

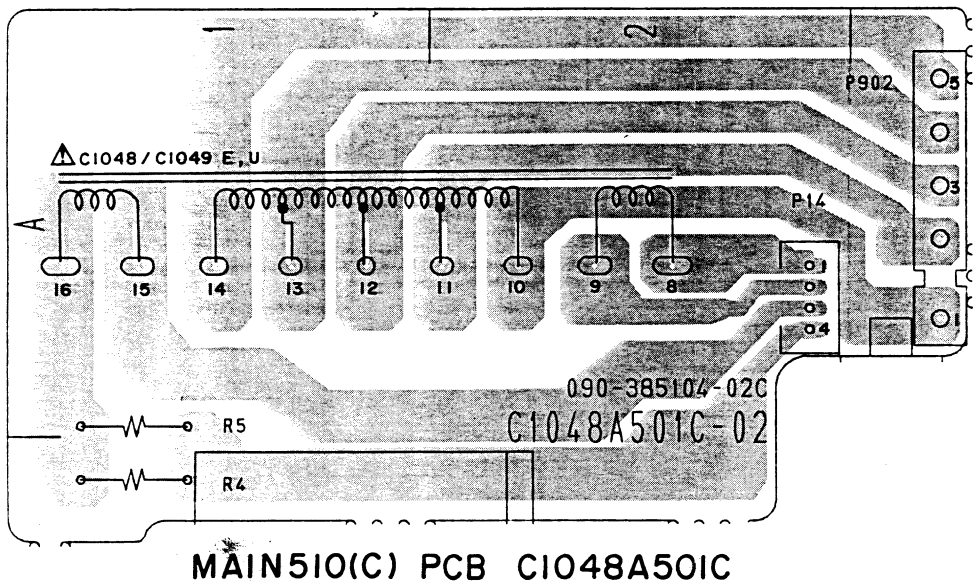


MAIN510(B) PCB C1048A501B

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

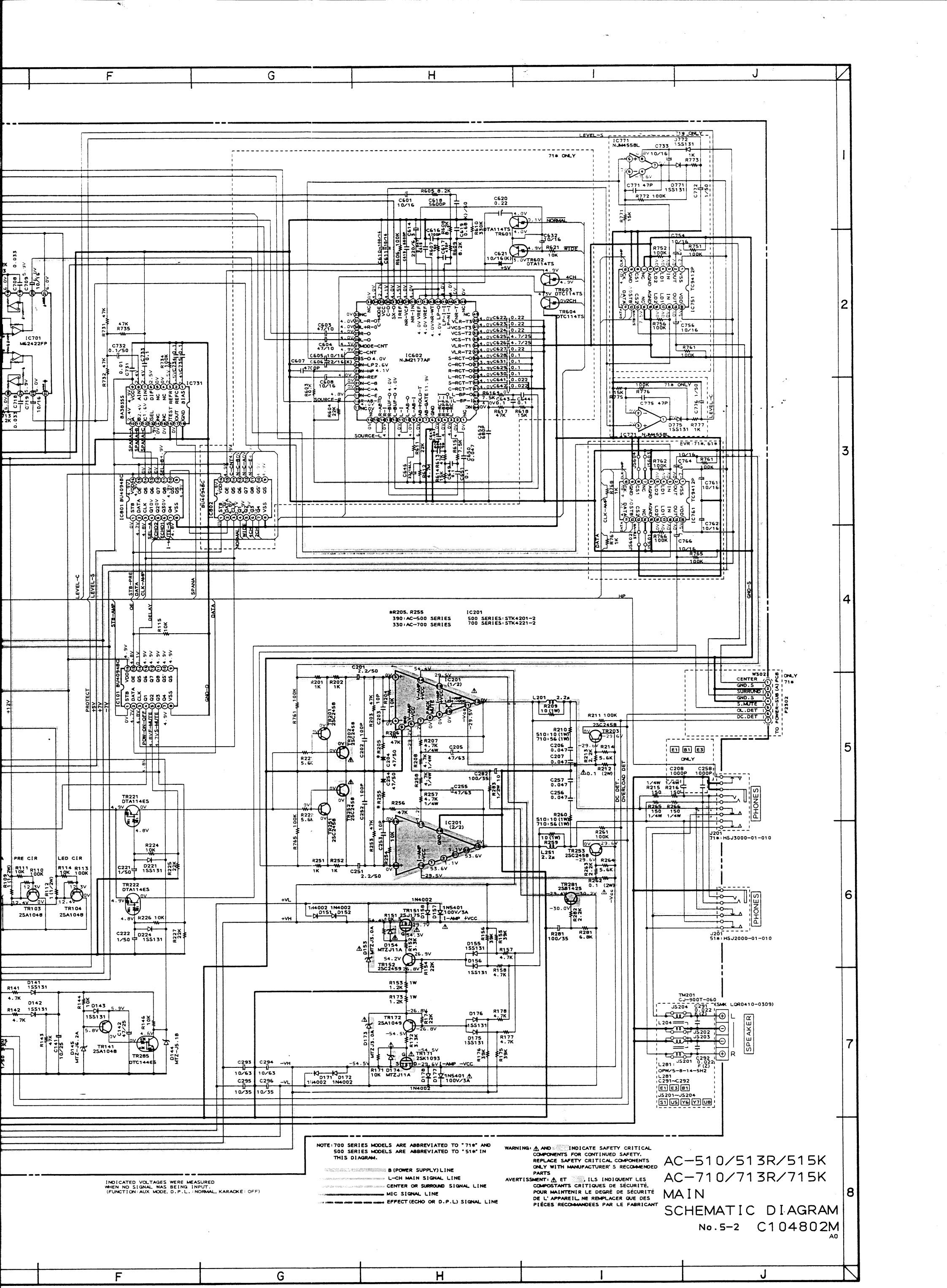
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE : PART DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.



MAIN510(C) PCB C1048A501C

TO TC-OK (A) PCB W1006
P6
1-MUTE-S
SEL-A
SEL-B
+7V
-7V
+12V-PRE
SOURCE-L
SOURCE-R
GND-S
REC-L
REC-R
GND-S
+5V-IDOL
GND-M
GND-D
+12V-CDM
JS702 JW(51*)
JS701 JW(51*)
71*. 515K ONLY
(K) ONLY
EXCEPT 515K
TR540 DTA144TS
TR541
TR539 DTC144TS
C556 10/16
TR531 DTA114TS
TR534 DTC114TS
TR532 DTC144TS
TR533 DTC144TS
TR551 DTC114TS
TR552 DTC114TS
TR535 DTC144TS
IC701 M62422FP
JS553 (515K ONLY)
TR537 DTC114TS
TR538 DTC114TS
X501 CSA2.00MG
X551 CRK400-M08
JS501 JW(710, 713R)
JS555
JS552
JW(515K)
EVR 51*
JS406
JS403
IC761 TC9260P
MTZ-J6.2A D751
MTZ-J6.2A D752
MTZ-J6.2A D753
IC581 NJM4558L
IC581 NJM4558L
C582 10/16
+5.6V
TO SYS410A(A) PCB P3011
J11 (51* ONLY)
J11A (71* ONLY)
VF1
VF2
POW-DOWN
STB-AMP
OE
STB-VR
DATA-SC
STB-PRE
DATA
+5.6V
GND-D
+12V-LED
-VP
CLK-SC
CLK-AMP
PROTECT
MIC-OUT
GND-S
GND-M
+12V-OME
SPEANA
HP
SPANA
LEVEL-S
LEVEL-C
R21 1 (1/2W)
TR23 2SB1425
IC21 ML7805FA
D23 1N4002
TR25 2SB621
TR21 2SA1048
TR24 DTC114ES
TR22 DTC114ES
TR26 DTC144ES
TR46 2SD2012
D24 1SS131
D22 1SS131
D25 MTZJ6.2A
D45 MTZJ15B
D46 1SS131
R43 0.47 (1/2W)
TR44 2SB1375
TR45 2SC2458
TR41 2SA1048
TR43 DTC114ES
TR101 2SA1048
TR102 2SA1048
TR103 2SA1048
CD MECHA
DECK MECHA
PRE CIR
LED CI
+12V
POW-DOWN
D63, D66
51* MTZJ6.2A
71* MTZJ7.5C
TO NAIN510(C) PCB P14
TO NAIN510(C) PCB P302
TO POWER-SUB (A) PCB P2301
700 SERIES ONLY
D1 1SS131
D10 1SS133
D4 MTZ-J5.1B
D5 MTZ-J5.1B
D81 1N4002
TR81 2SB1375
TR82 2SA1048
PROTECT DET.
TR121 DTC114TS
TR122 DTC114TS
TR123 DTC114TS
TR124 DTC114TS
RL1, RL2 OSA-SS-212DM5
*D2, D3
51* DBF40C 200V/4A
71* DBF60C 200V/6A
RB3
51* 5.6K
71* 10K
MAIN510 (A) PCB C1048A501A



NOTE: 700 SERIES MODELS ARE ABBREVIATED TO "71*" AND 500 SERIES MODELS ARE ABBREVIATED TO "51*" IN THIS DIAGRAM.

B (POWER SUPPLY) LINE
L-CH MAIN SIGNAL LINE
CENTER OR SURROUND SIGNAL LINE
MIC SIGNAL LINE
EFFECT (ECHO OR D.P.L) SIGNAL LINE

INDICATED VOLTAGES WERE MEASURED WHEN NO SIGNAL WAS BEING INPUT. (FUNCTION: AUX MODE, D.P.L.: NORMAL, KARAOKE: OFF)

WARNING: ⚠ AND ▒ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSMENT: ⚠ ET ▒ ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

AC-510/513R/515K
AC-710/713R/715K
MAIN
SCHEMATIC DIAGRAM

No.5-2 C104802M
A0

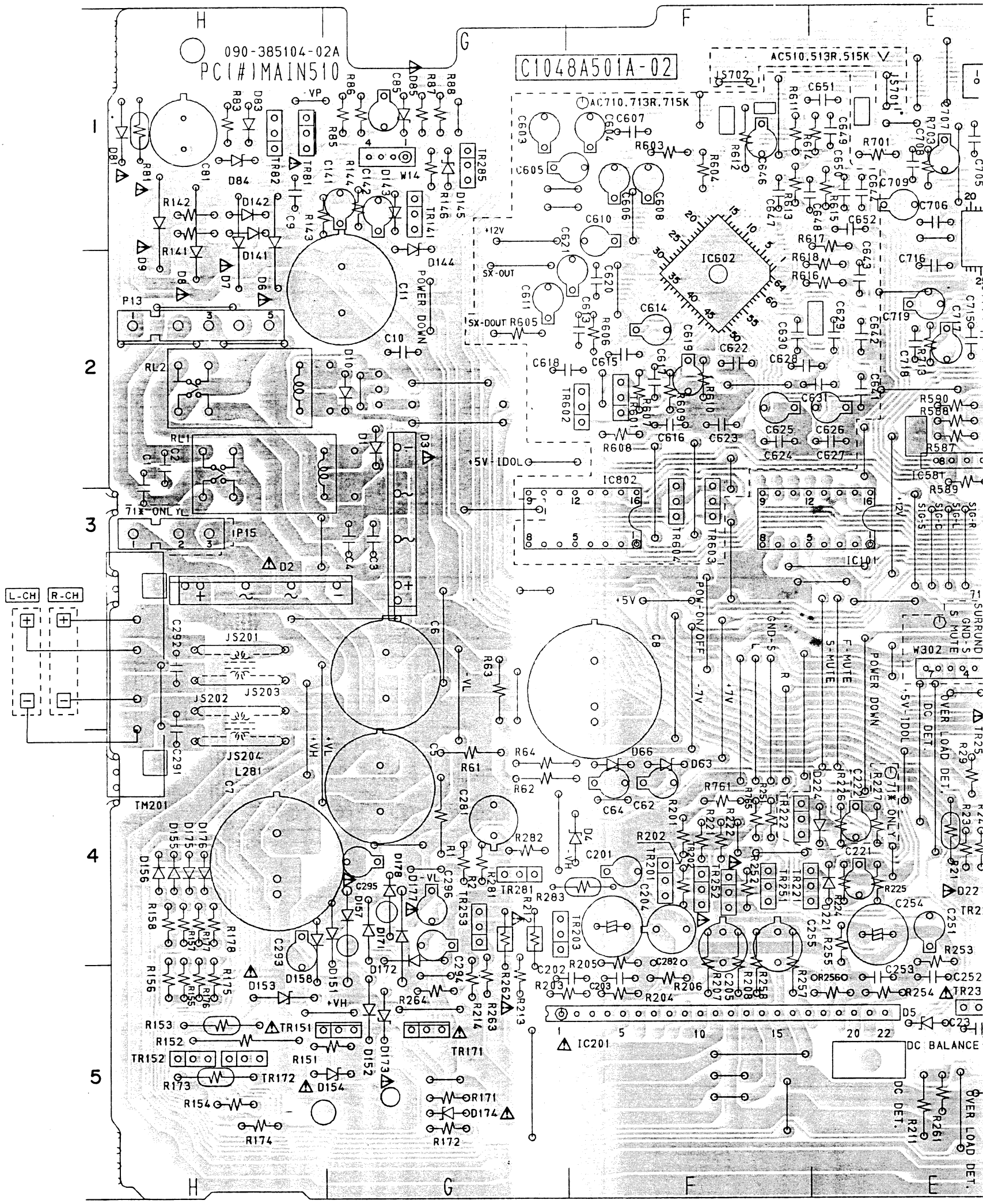
PRINCIPAL PARTS LOCATION

ICs

IC21	E5
IC101	E,F3
IC201	F5
IC501	C1
IC581	E2
IC602	F2
IC701	E1,2
IC731	C2
IC751	D3,4
IC761	C3,4
IC771	C,D3
IC801	D2
IC802	F,G3

TRANSISTORs

TR21	D4
TR22	E4
TR23	E5
TR24	D5
TR25	E4
TR26	E4
TR41	D4
TR43	D4
TR44	D5
TR45	D5
TR46	D5
TR81	H1
TR82	H1
TR101	C4
TR102	C4
TR103	C4
TR104	C,D4
TR121	C5
TR122	C5
TR123	C5
TR124	C5
TR141	G1
TR151	G,H5
TR152	H5
TR171	G5
TR172	H5
TR201	F4
TR202	F4
TR203	G4
TR221	E,F4
TR222	F4
TR251	F4
TR252	F4
TR253	G4
TR281	G4
TR285	G1
TR531	C1
TR532	D1
TR533	D1
TR534	C2
TR535	D1,2
TR536	C2
TR537	B1
TR538	C1
TR539	B1
TR540	B1
TR541	B1
TR551	C2
TR552	C1,2
TR601	F2
TR602	F2
TR603	F3

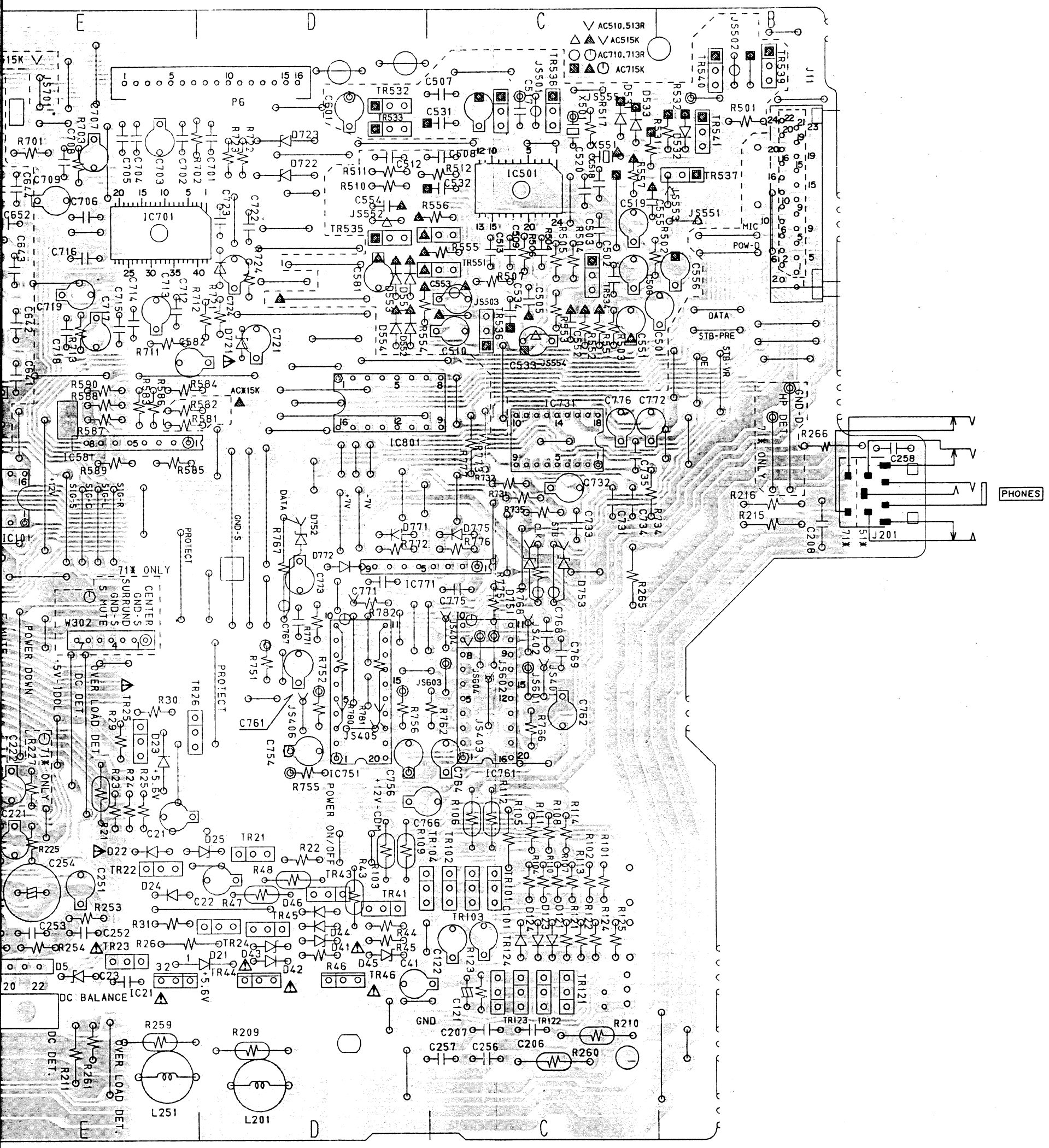


MAIN510(A) PC

R534 ..... C2
R535 ..... D1,2
R536 ..... C2
R537 ..... B1
R538 ..... C1
R539 ..... B1
R540 ..... B1
R541 ..... B1
R551 ..... C2
R552 ..... C1,2
R601 ..... F2
R602 ..... F2
R603 ..... F3
TR604 ..... F3

CONNECTORs

J11 ..... B1
J201 ..... A,B3
P6 ..... D,E1
P13 ..... H2
P15 ..... H3
W14 ..... G1
W302 ..... E3



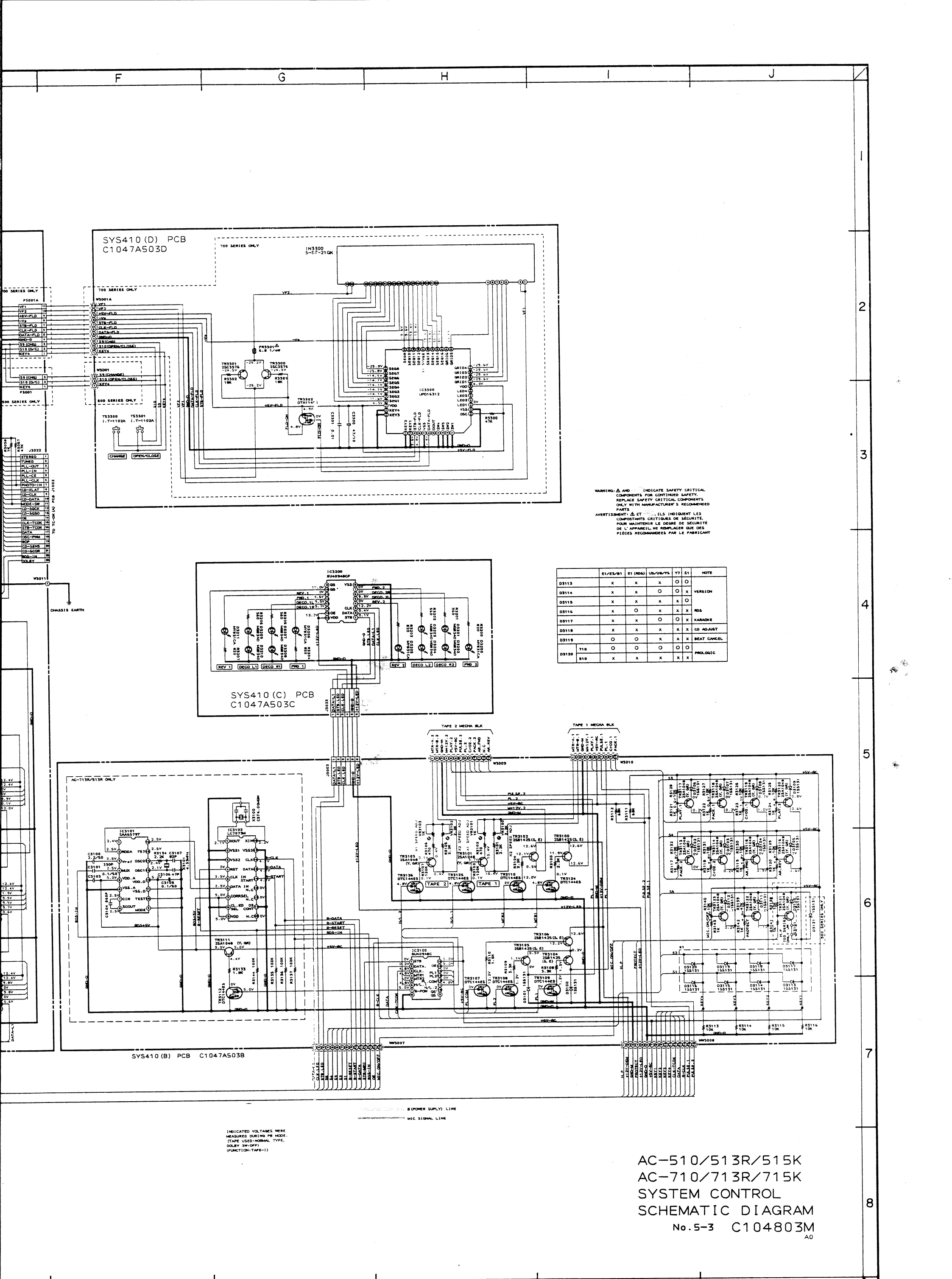
AIN510(A) PCB C1048A501A

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE : PART DIFFER DEPENDING ON MODEL NUMBER. REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

A
B
C
D
E
1
2
3
4
5
6
7
8
10
IC3001
M38197MA-149FP TX2-SYS75-1
IC3003
XL24C02P
IC3004 TA2011S
IC3005
BU4094BCF
IC3006
BU4094BCF
IC3007
BU4094BCF
700 SERIES ONLY
500 SERIES ONLY
SW3001
ROTARY ENCODER
EC16B24304
SW3002
VPS-800
VR3001
RK11K1140 B2K
MIC
VOLUME
CHASSIS
SYS410(A) PCB C1047A503A



		E1/E3/B1	E1 (RD6)	US/UB/Y6	Y7	S1	NOTE
D3113		x	x	x	O	O	VERSION
D3114		x	x	O	O	x	
D3115		x	x	x	x	O	
D3116		x	O	x	x	x	RDS
D3117		x	x	O	O	x	KARAOKE
D3118		x	x	x	x	x	CD ADJUST
D3119		O	O	x	x	x	BEAT CANCEL
D3120	710	O	O	O	O	O	PROLOGIC
	510	x	x	x	x	x	

WARNING: ⚠ AND ▨ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ ET ▨, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

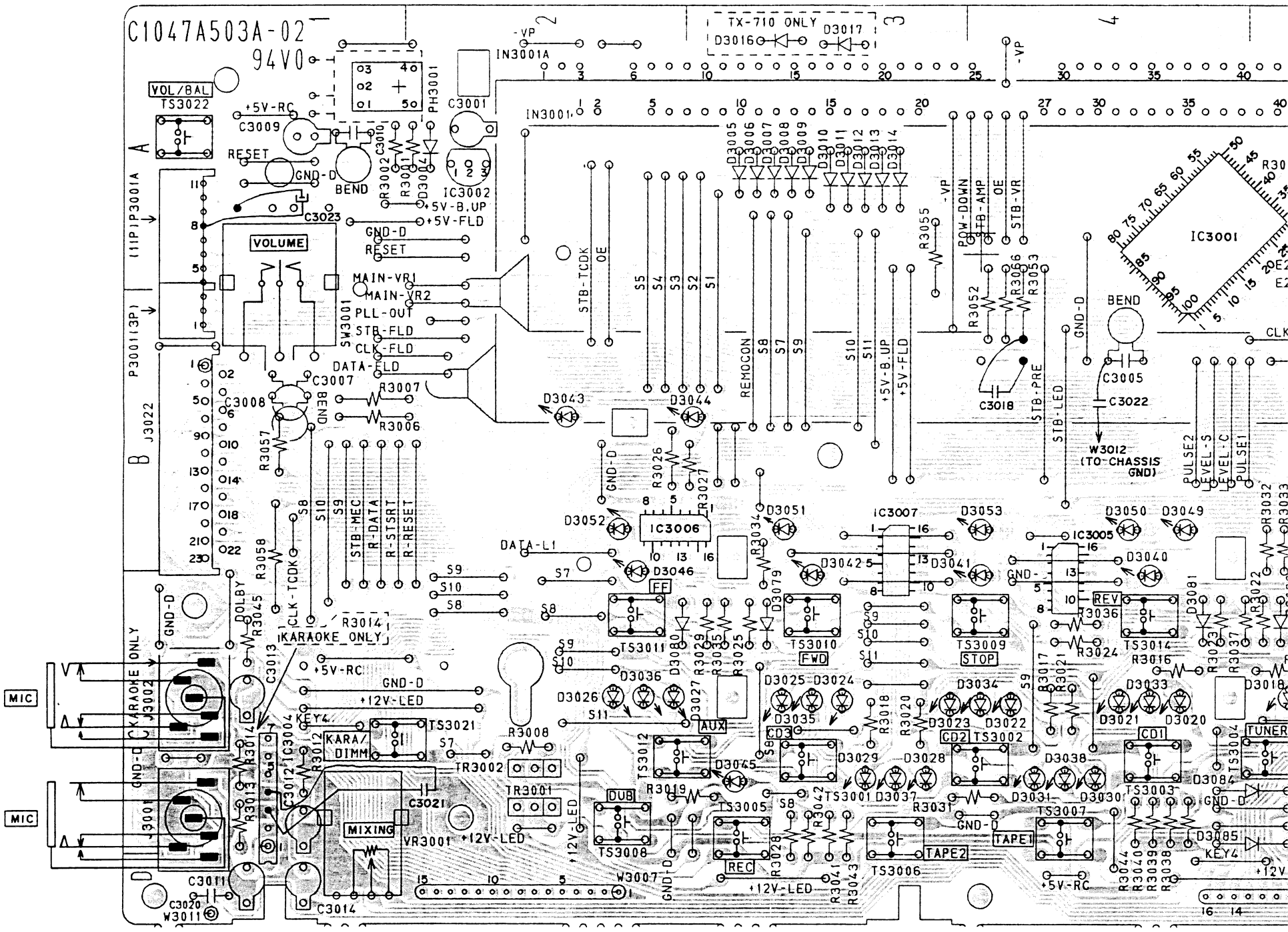
INDICATED VOLTAGES WERE MEASURED DURING PB MODE. (TAPE USED: NORMAL TYPE, DOLBY SW: OFF) (FUNCTION: TAPE-1)

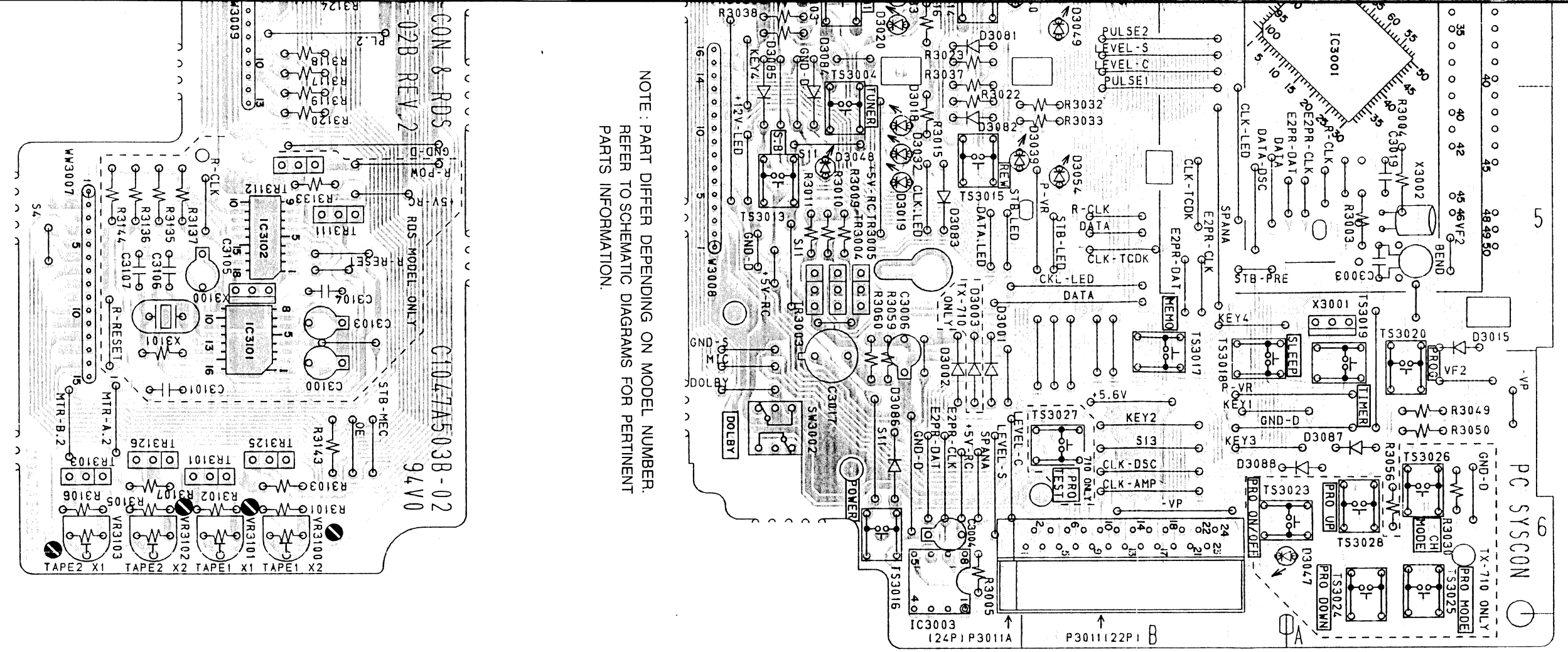
AC-510/513R/515K
AC-710/713R/715K
SYSTEM CONTROL
SCHEMATIC DIAGRAM

No.5-3 C104803M

A0

C1047A503A-02
94V0

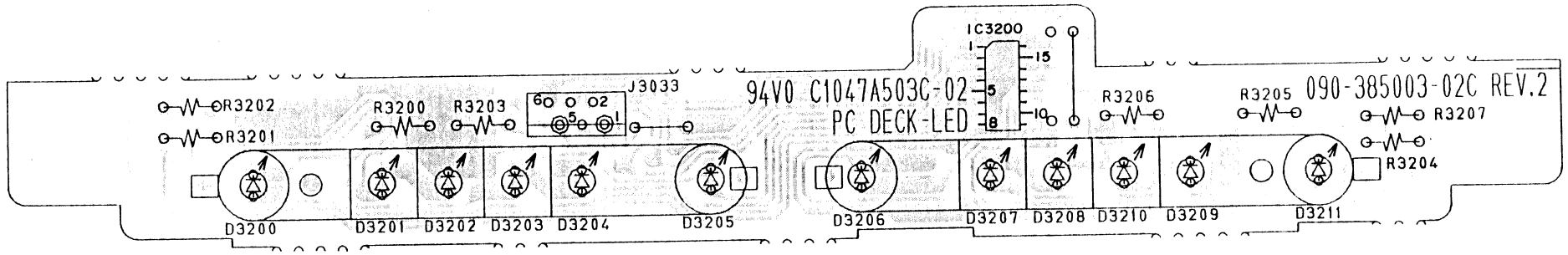

VOL/BAL
TS3022
+5V-RC
C3009
RESET
GND-D
BEND
PH3001
C3001
IC3002
+5V-B.UP
+5V-FLD
C3023
VOLUME
SW3001
MAIN-VR1
MAIN-VR2
PLL-OUT
STB-FLD
CLK-FLD
DATA-FLD
P3001(3P)
J3022
C3007
C3008
R3007
R3006
R3057
R3058
S8
S10
S9
STB-MEC
R-DATA
R-STSRT
R-RESET
CLK-TCDK
DOLBY
R3045
R3014
KARAOKE ONLY
C3013
J3002
MIC
J3001
C3012
C3004
KEY4
KARA/DIMM
TS3021
TR3002
TR3001
C3021
MIXING
VR3001
+12V-LED
C3011
C3020
W3011
C3014
W3007
R3008
DUB
TS3008
TS3012
R3019
D3045
TS3005
REC
R3028
R3042
R3041
R3043
TS3006
TAPE2
TAPE1
TS3007
R3031
D3043
D3044
D3051
D3052
IC3006
R3026
R3027
R3034
D3046
FF
TS3011
D3036
D3026
AUX
S11
DATA-L1
S7
S9
S10
S8
D3080
D3079
R3029
R3035
R3025
FWD
TS3010
STOP
TS3009
D3025
D3024
D3035
CD3
D3029
D3028
D3038
D3037
D3034
D3023
D3022
CD2
TS3002
CD1
TS3003
D3033
D3021
D3020
TUNER
TS3004
D3084
D3085
D3030
D3031
R3018
R3020
R3017
R3021
R3024
R3016
R3036
REV
TS3014
D3040
D3041
D3042
D3053
IC3007
D3050
D3049
IC3005
D3081
R3022
R3037
R3023
R3032
R3033
D3018
R3055
POW-DOWN
STB-AMP
OE
STB-VR
R3052
R3066
R3053
C3018
STB-PRE
STB-LED
C3005
C3022
W3012
(TO-CHASSIS GND)
PULSE2
LEVEL-S
LEVEL-C
PULSE1
IC3001
R30
CLK
BEND
GND-D
-VP
IN3001A
IN3001
D3005
D3006
D3007
D3008
D3009
D3010
D3011
D3012
D3013
D3014
STB-TCDK
OE
S5
S4
S3
S2
S1
REMOCON
S6
S7
S9
S10
S11
+5V-B.UP
+5V-FLD
TX-710 ONLY
D3016
D3017
C3010
R3002
R3001
D3004
C3002
C3003
R3003
R3004
D3001
D3002
D3003
R3010
R3011
R3012
R3013
R3015
C3015
C3016
C3017
R3000
R3050
R3051
R3054
R3056
R3060
R3061
R3062
R3063
R3064
R3065
R3067
R3068
R3069
R3070
R3071
R3072
R3073
R3074
R3075
R3076
R3077
R3078
R3079
R3080
R3081
R3082
R3083
R3084
R3085
R3086
R3087
R3088
R3089
R3090
R3091
R3092
R3093
R3094
R3095
R3096
R3097
R3098
R3099
R3100
R3101
R3102
R3103
R3104
R3105
R3106



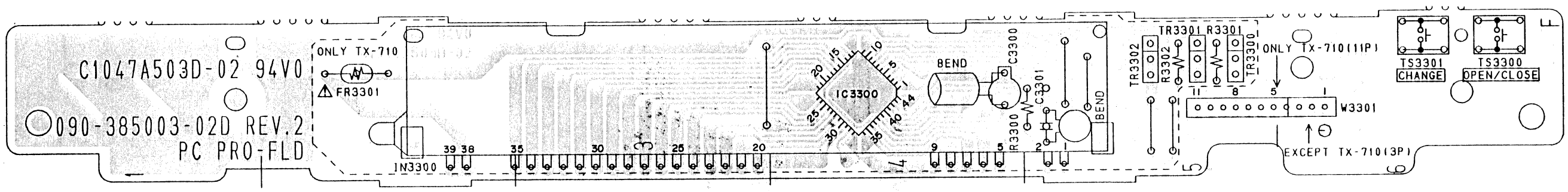
NOTE : PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

C1047A503B

NOTE : PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.



SYS410(C) PCB C1047A503C



SYS410(D) PCB C1047A503D

NOTE : PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT PARTS INFORMATION.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT

IC1601
CXA1897Q
IC1200
CXD2508AQ
IC1701
BU4094BCF
IC1702
BU4094BCF
IC1400 BA6247
TC-DK (B) PCB
C1047A502B
TO MAIN510 (A) PCB P6
TO SYS410 (A) PCB J3022
REC EQ CONTROL
PB EQ CONTROL
REC EQ
NR
AGC
AMS
MUTE
IREF
REC.MUTE-TAPE
REC.MUTE-MIC
REC.M-TAPE
REC.M-MIC
TAPE.L
REC-IN.L
TAPE.R
REC-IN.R
REC.IN.L M(C)
REC.IN.R M(C)
P1005
P1004
W1006
J1002
YMC-03 (B) PCB
C1047A505B
(MOTOR)
YMC-03 (A) PCB
C1047A506A
(SENSOR)
YMC-03 (A) PCB
C1047A501B
(RELAY)

FUNCTION	SEL.A	SEL.B
TAPE	L	L
AUX	L	H
TUNER	H	L
CD	H	H

	(Y6), (Y7) (US) (S), (U8)	(E), (B)
C1507	×	○
JS1506	○	×

	(Y6), (Y7) (US) (S), (U8)	(E), (B)
L1501	○	×
JS1501	×	○

	TUNER PACK
(E), (B)	TFCB5E720A
(S), (US), (U8), (Y6)	TFCB1U717A
(Y7)	TFCB1S713A

IC1400 CONTROL							
IN			OUT			
4	5	6	10	2	3	
L	L	H	L	L	L	STOP
H	L	L	H	L	OPEN	LOADING
H	L	H	L	H	OPEN	
L	H	L	H	OPEN	L	TABLE
L	H	H	L	OPEN	H	
H	H	H	L	L	L	STOP

NOTE:
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS
ALL CAPACITORS IN uF (P=PF)
ALL ELECTROLYTIC CAPACITORS IN uF/WV

INDICATED VOLTAGES WERE MEASURED DURING CD PLAY MODE.

B (POWER SUPPLY) LINE
PB SIGNAL LINE
REC SIGNAL LINE
TUNER & AUX SIGNAL LINE
CD SIGNAL LINE
L-CH SIGNAL LINE
RF SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
SPINDLE MOTOR LINE
SLED MOTOR LINE

TC-DK (A) PCB C1047A502A

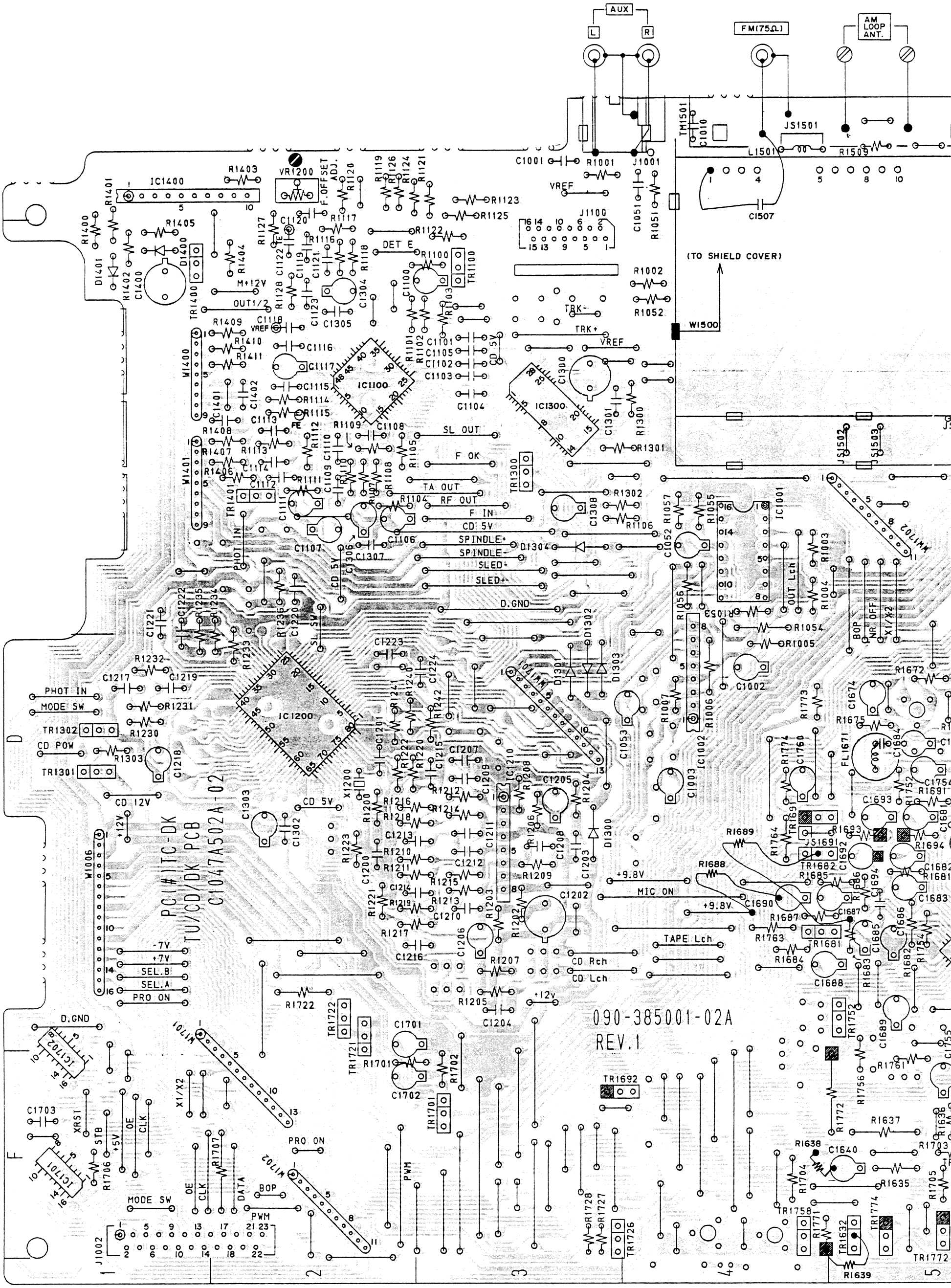
TC-DK (C) PCB C1047A502C

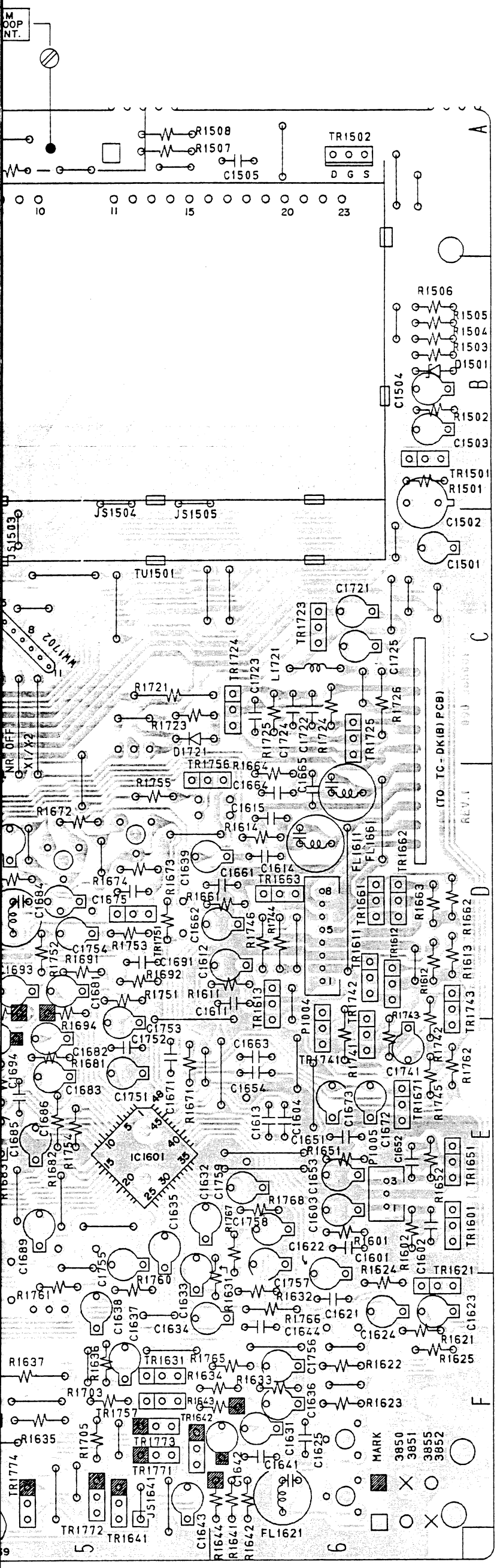
C1047A505C YMC-03 (C) PCB (RELAY)

CD-MECHA YMC-03

AC-510/513R/515K
AC-710/713R/715K
DECK/CD/TUNER
SCHEMATIC DIAGRAM

No.5-4 C104804M
A0


AUX
L
R
FM(75Ω)
AM LOOP ANT.
TM1501
C1010
JS1501
L1501
R1509
C1507
C1001
R1001
J1001
VREF
C1051
R1051
J1100
(TO SHIELD COVER)
R1002
R1052
WI500
TRK-
TRK+
VREF
IC1400
R1403
VR1200
F.OFFSET ADJ.
R1120
R1119
R1126
R1124
R1121
R1123
R1125
R1122
R1127
C1120
R1117
R1116
C1122
C1119
C1121
R1118
C1304
C1305
DET E
R1100
TR1100
C1100
R1103
R1405
R1400
R1401
D1401
R1402
C1400
D1400
R1404
M+12V
OUT1/2
TR1400
R1128
C1123
R1409
C1116
VREF
R1410
R1411
C1116
C1117
C1115
R1114
R1115
C1113
FE
R1408
R1407
R1113
R1406
C1114
C1112
W1401
W1400
TR1401
PHOT IN
C1111
R1112
C1109
C1110
R1110
R1109
C1108
R1108
R1107
R1111
R1105
SL OUT
F OK
TA OUT
RF OUT
F IN
CD 5V
SPINDLE+
SPINDLE-
SLED+
SLED-
D.GND
C1106
C1107
C1306
C1307
IC1100
C1101
C1105
C1102
C1103
C1104
R1101
R1102
CD 5V
C1300
IC1300
C1301
R1300
R1301
TR1300
C1308
R1302
R1106
C1052
R1057
R1055
IC1001
R1003
R1004
R1056
R1053
R1054
R1005
OUT Lch
BOP
NR OFF
X1/X2
W1002
C1002
C1053
D1304
D1302
D1303
D1301
C1003
IC1002
R1007
R1006
C1222
C1221
R1235
R1234
R1236
C1220
SL SW
C1223
C1224
R1241
R1240
R1242
C1201
R1222
R1220
C1215
C1207
C1210
R1208
C1205
R1204
R1212
C1209
C1211
R1206
C1208
C1203
D1300
R1209
C1202
R1207
C1206
R1205
C1204
+12v
+9.8V
MIC ON
+9.8V
TAPE Lch
CD Rch
CD Lch
R1672
C1674
R1773
R1675
FL1671
C1684
C1760
R1774
R1752
C1754
R1691
C1693
R1764
TR1691
R1693
JS1691
R1689
R1694
TR1682
C1692
R1688
R1685
R1686
C1694
C1682
R1681
C1683
C1690
C1687
R1687
R1763
TR1681
R1684
C1688
C1686
C1685
R1682
R1683
TR1752
C1689
R1761
R1756
R1772
R1637
R1638
C1640
R1704
R1635
R1703
R1705
TR1758
R1771
TR1632
TR1774
R1639
TR1772
TR1692
R1728
R1727
TR1726
R1722
TR1722
TR1721
C1701
R1701
C1702
R1702
TR1701
PWM
DATA
BOP
MODE SW
PRO ON
XRST
STB
+5V
OE
CLK
R1706
R1707
C1703
IC1701
IC1702
X1/X2
-7V
+7V
SEL.B
SEL.A
PRO ON
+12V
PHOT IN
MODE SW
CD POW
TR1302
TR1301
R1232
C1217
C1219
R1231
R1230
R1303
C1218
CD 12V
CD 5V
X1200
C1303
C1302
R1223
C1200
R1200
R1216
R1218
C1213
R1210
R1211
C1212
R1215
C1214
R1219
R1213
C1210
R1217
C1216
PC(#1TC-DK
TU/CD/DK PCB
C1047A502A-02
090-385001-02A
REV.1
TC-DK(A) PCB C1047A502A
NOTE : PART DIF
REFER TO
PARTS IN



PRINCIPAL PARTS LOCATION

ICs

IC1001	C4
IC1002	C,D4
IC1100	B2
IC1200	D2
IC1210	D,E3
IC1300	B,C3
IC1400	A1,2
IC1601	E5
IC1701	F1
IC1702	F1

TRANSISTORs

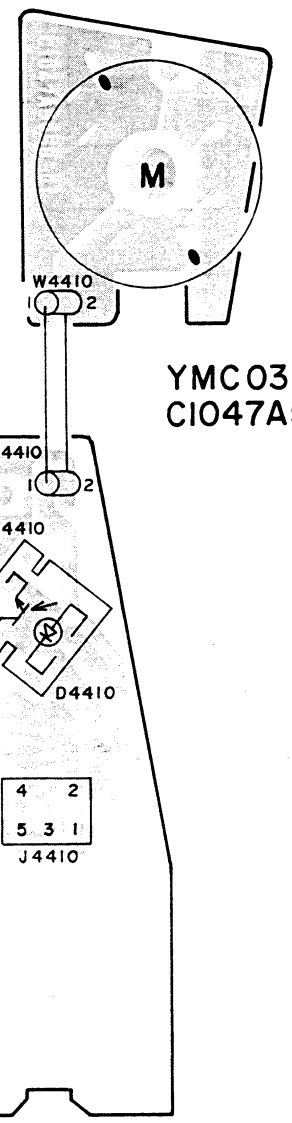
TR1100	B3
TR1300	C3
TR1301	D1
TR1302	D1
TR1400	B1
TR1401	C2
TR1501	B6
TR1502	A6
TR1601	E6
TR1611	D6
TR1612	D6
TR1613	D6
TR1621	F6
TR1631	F5
TR1632	F5
TR1641	F5
TR1651	E6
TR1661	D6
TR1662	D6
TR1663	D6
TR1671	E6
TR1681	E4
TR1682	E4
TR1691	D4
TR1692	F3,4
TR1701	F3
TR1721	E,F2
TR1722	E2
TR1723	C6
TR1724	C6
TR1725	C6
TR1726	F3
TR1741	D6
TR1742	D6
TR1743	D6
TR1751	D5
TR1752	E5
TR1756	D5,6
TR1757	F5
TR1758	F4
TR1771	F5
TR1772	F5
TR1773	F5
TR1774	F5

CONNECTORs

J1002	F1,2
J1100	B3
P1004	D6
P1005	E6

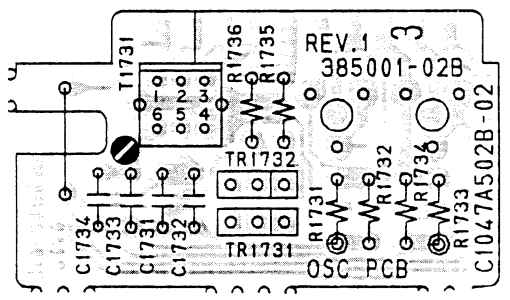
WIREs

W1006	E1
W1400	B1
W1401	C1

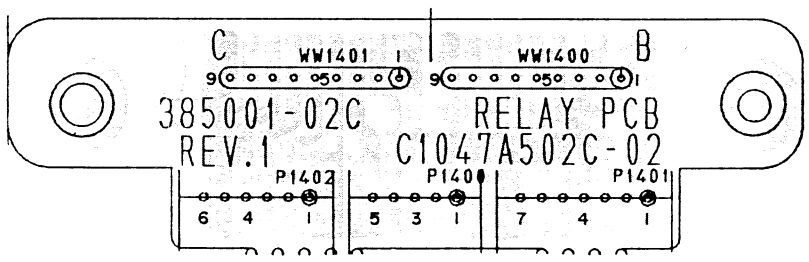


YMC03(B) PCB
C1047A505B

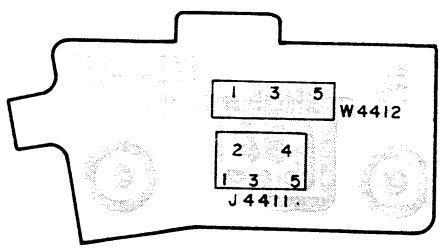
YMC03(A) PCB
C1047A505A



TC-DK(B) PCB C1047A502B



TC-DK(C) PCB C1047A502C



YMC03(C) PCB
C1047A505C

NOTE : PART DIFFER DEPENDING ON MODEL NUMBER.
REFER TO SCHEMATIC DIAGRAMS FOR PERTINENT
PARTS INFORMATION.

WARNING: ⚠ AND ▒▒ INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER' S RECOMMENDED PARTS

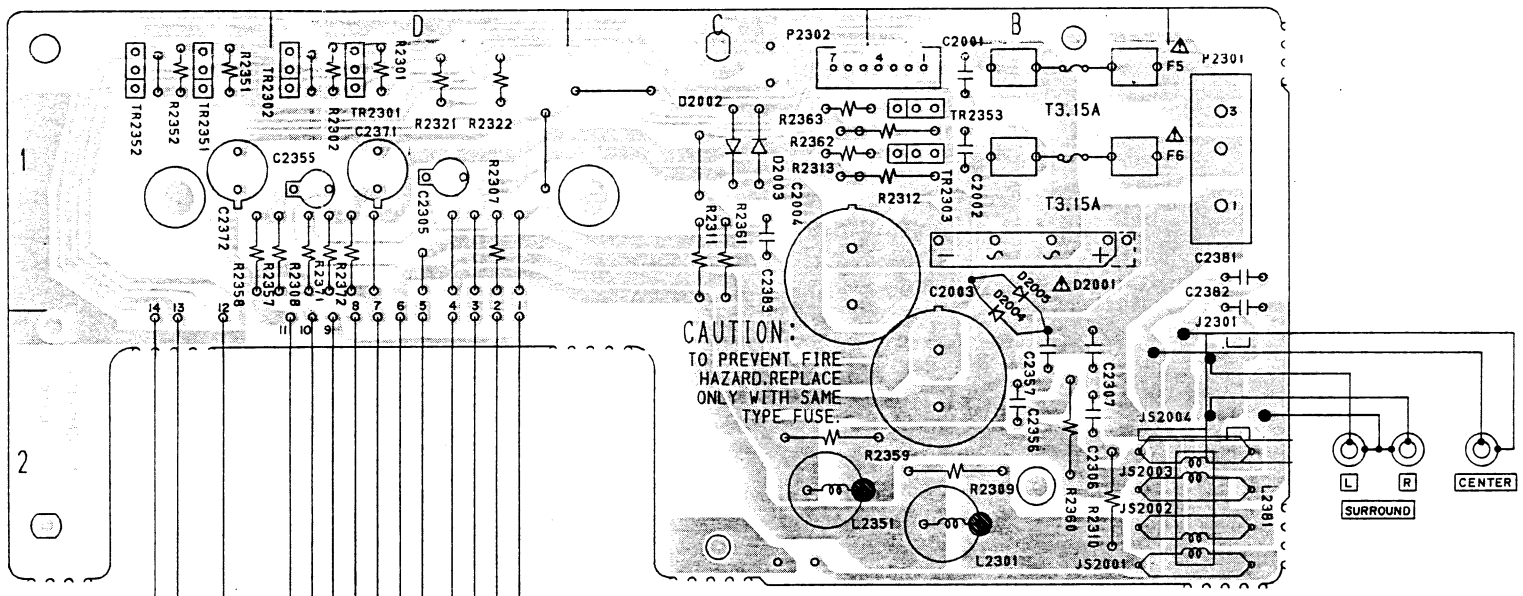
AVERTISSMENT: ⚠ ET ▒▒, ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L' APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W
ALL CAPACITORS IN μF 50WV

INDICATED VOLTAGES WERE MEASURED WHEN NO SIGNAL WAS BEING INPUT.

▒▒▒▒▒▒▒▒ +B (POWER SUPPLY) LINE
— — — — CENTER CH SIGNAL LINE
- - - - - - SURROUND CH SIGNAL LINE

AC-710/713R/715K
POWER-SUB
SCHEMATIC DIAGRA
No.5-5 C10480



POWER-SUB(A) PCB C1049A504A

POWER-SUB(B) PCB C1049A504B

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

3 ONLY
C2381
0.01
CENTER CH
SURROUND L
SURROUND R
C2382
0.01
J2301

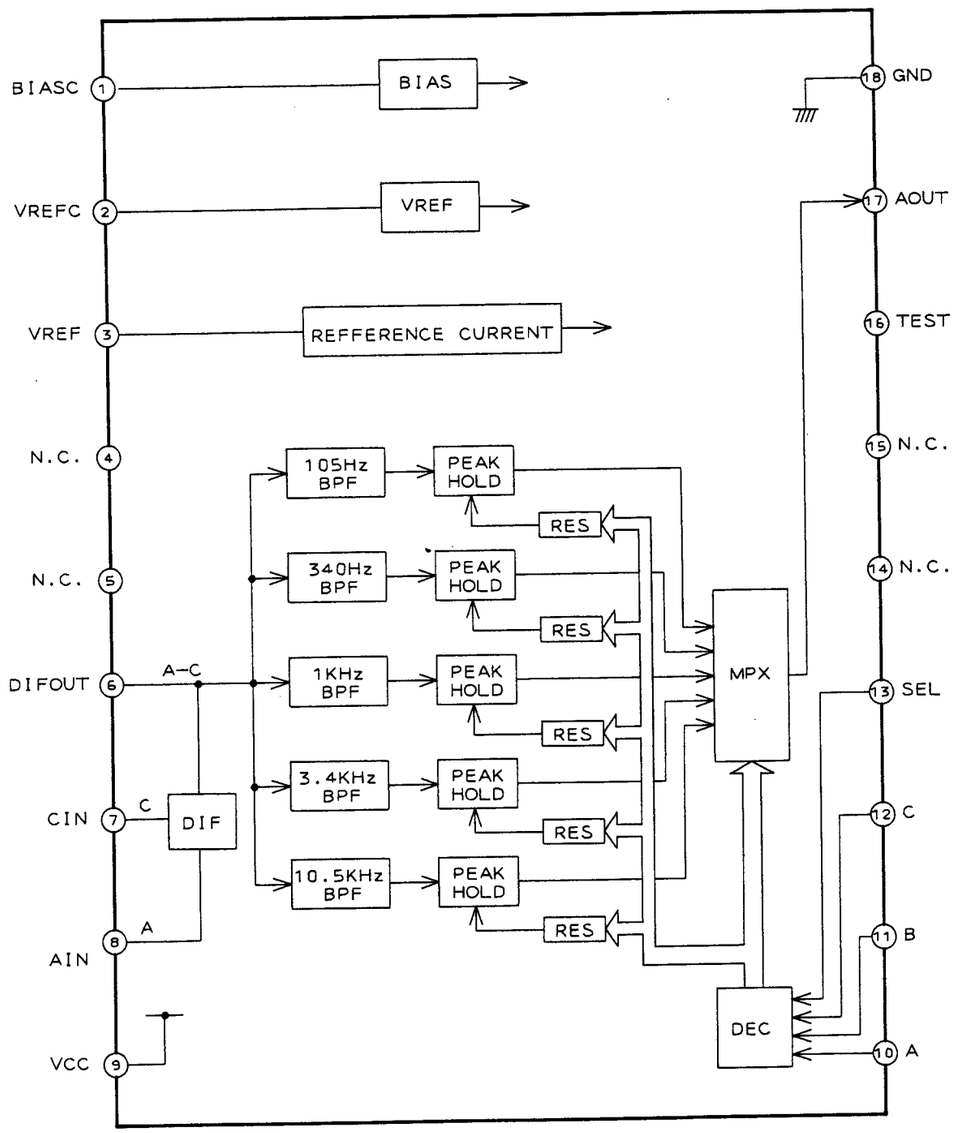
CENTER CH
SURROUND L
SURROUND R
J2301

8, Y6, Y7 ONLY

R/715K

DIAGRAM
104805M
A3

BA3835S (5 BAND BPF FOR SPECTRUN ANALYZER)



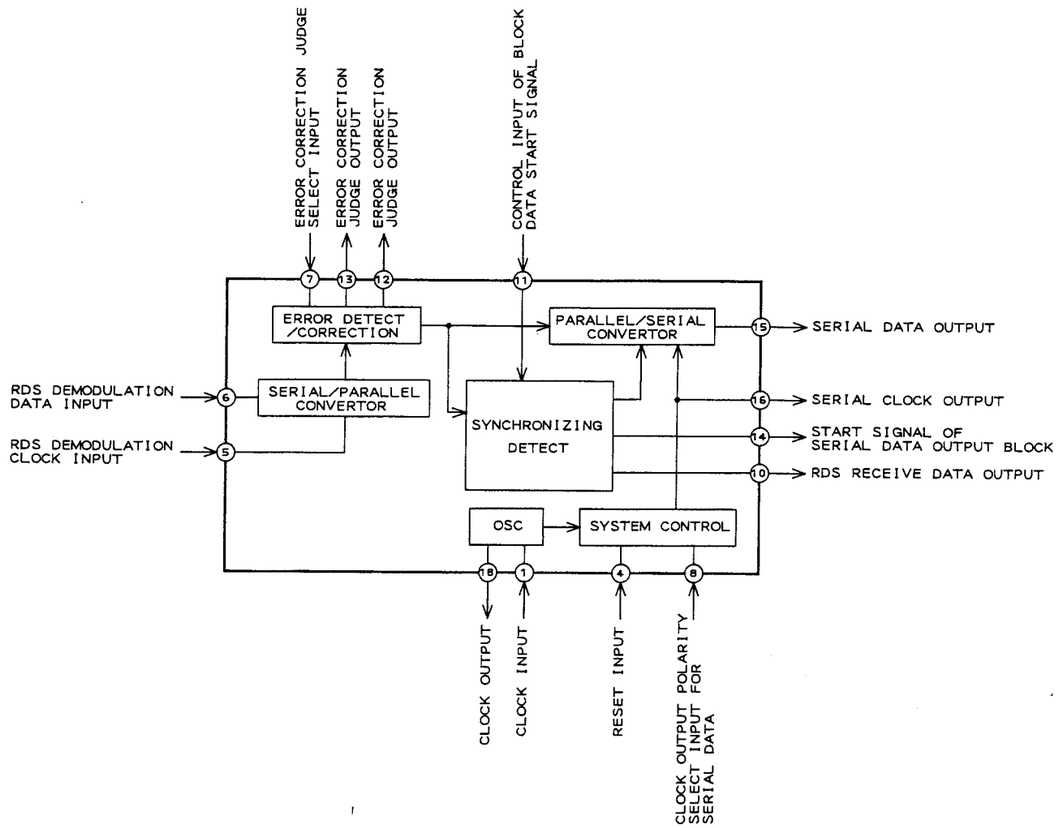
CXA1782BQ (CD RF I-V AMP/RF AMP)

PIN No.	PORT NAME	I/O	FUNCTION
1	FEO	O	Focus drive output.
2	FEI	I	Focus error signal input.
3	FDFCT	I	Time constant capacitor connecting terminal at time of defect.
4	FGD	I	Connect condenser for Focus servo gain control.
5	FLB	I	Connect condenser for Focus servo correction.
6	FE-O	O	Focus drive output.
7	FE-M	I	FOCUS AMP Inverting input.
8	SRCH	I	Connect condenser for Focus search wave.
9	TGU	I	Connect condenser for Trackink gain select.
10	TG2	I	Connect condenser for Tracking gain select.
11	FSET	I	Terminal for peak setting for Focus tracking phase compensation.
12	TA-M	I	Tracking AMP Inverting input.
13	TA-O	O	Tracking drive output.
14	SL-P	I	Sled AMP non-inverting input.
15	SL-M	I	Sled AMP Inverting input.
16	SL-O	O	Sled drive output.
17	ISET	I	Focus search, Track jump and slide kick current input.
18	Vcc	–	+5 V
19	CLK	I	Clock signal input from the CD MI-COM.
20	XLT	I	Lutch signal input from the CD MI-COM.
21	DATA	I	Data signal input from the CD MI-COM.
22	$\overline{XRST}$	I	RESET input.
23	C.OUT	O	Track count signal output.
24	SENS	O	FZC,DFCT,TZC,GAIN and BAL output.
25	FOK	O	Focus OK signal output.
26	CC2	I	Input terminal of DEFECT bottom hold output which is supplied through capcitor.
27	CC1	O	DEFECT bottom hold output terminal.
28	CB	I	DEFECT bottom hold capacitor connecting terminal.
29	CP	I	Terminal for connection of MIRR hold capacitor. (Non inverted input terminal of MIRR comparator.)
30	RF-I	I	Input terminal of RF summing AMP output which is supplied through a capacitor.
31	RF-O	O	RF summing AMP output.
32	RF-M	I	RF summing AMP inverted input terminal.
33	LD	O	APC AMP output terminal.
34	PHD	I	APC AMP input terminal.
35	PHD1	I	RF I-V AMP inverted input terminal (for photo diode A+C of pick up)
36	PHD2	I	RF I-V AMP inverted input terminal (for photo diode B+D of pick up)
37	FE-BIAS	I	Terminal for bias adjustment of focus error amp.
38	F	I	RF I-V AMP inverted input terminal (for photo diode F of pick up)
39	E	I	RF I-V AMP inverted input terminal (for photo diode E of pick up)
40	EI	–	Not used
41	VEE	–	GND
42	TEO	O	Tracking error amp output terminal. (E-F signal output.)
43	LPFI	I	BAL adjustment of comperator input terminal.
44	TEI	I	Tracking error input terminal.
45	ATSC	I	Window comperator input input terminal for ATSC detection.
46	TZC	I	Input terminal of tracking zero cross comparator.
47	TDFCT	I	Time constant capacitor connecting terminal at time of defect.
48	VC	O	(VCC+VEE)/2 DC voltage output terminal.

CXD2508AQ (CD DIGITAL SIGNAL PROCCESS & SYSTEM CONTROL MI-COM)

Pin No.	PORT NAME	I/O	FUNCTION
1	SCOR	O	H output when either sub code S0 or S1 is detected.
2	SBSO	O	Serial output of Sub P to W.
3	EXCK	I	Clock input for SBSO read out.
4	SQSO	O	Serial output of SUBQ 80 bit.
5	SQCK	I	Clock input for SQSO read out.
6	MUTE	I	Muteing control. (H : MUTE, L : CANCEL)
7	SENS	O	SENS output. Output to the OPERATION MI-COM.
8	$\overline{XRST}$	I	System reset. Reset at L.
9	DATA	I	Serial data input from THE OPERATION MI-COM.
10	XLAT	I	Latch input from the OPERATION MI-COM. (Latching of serial data at falling edge of the pulse.)
11	CLOK	I	Serial data transmission clock input from the OPERATION MI-COM.
12, 53	Vss	–	GND
13	SEIN	I	Sense input from SSP.
14	CNIN	I	Track jump number count signal input.
15	DATO	O	Serial data output to SSP.
16	XLTO	O	Serial data latch output to SSP. (Latching at fallingedge of the pulse.)
17	CLKO	O	Serial data transmission clock output to SSP.
18	SLED SW	I	Innermost position ON/OFF detection input of sled motor. (Input A)
19	SPOB	I	Innermost position ON/OFF detection input of sled motor. (Input B)
20	SPOC	I	Innermost position ON/OFF detection input of sled motor. (input C)
21	XLSL	I	X'tal selection input terminal. L when X'tal is 16.9344 MHz. H when 33.8688 MHz.
22	LD ON/OFF	O	Laser diode ON/OFF control.
23	FOK	I	Focus OK input terminal. For SENS output and servo automatic sequencer.
24	MON	–	Not used
25	MDP	O	Servo control for spindle motor.
26	MDS	–	Not used
27	LOCK	–	Not used
28	TEST	–	Regular GND for TEST terminal.
29	FILO	O	Filter output for master PLL. (slave = digital PLL)
30	FILI	I	Filter input for master PLL.
31	PCO	O	Charge pump output for master PLL.
33, 75, 76	AVss1 ~ 3	–	GND
34	CLTV	I	VCO control voltage input for master.
36	RF	I	EFM signal input.
37	BIAS	I	Asymmetry circuir constant current input.
38	ASYI	I	Asymmetry compilasion voltage input.
39	ASYO	O	EFM full swing output. (L = Vss, H = VDD)
40	ASYE	I	L : Asymmetry circuit OFF H : Asymmetry circuit ON.
41	WDCK	–	Not used
42	LRCK	O	D/A interface for 48 bit slot. LR clock f = Fs
43	LRCKI	I	LR clock input to DAC.
44	PCMD	O	Serial data from D/A interface.
45	PCMDI	I	Audio data input to DAC.
46	BCK	O	Bit clock from D/A interface.
47	BCKI	I	Bit clock input to DAC.
48	GTOP	–	Not used
49	XUGF	–	
50	XPCK	–	
51	GFS	–	
52	RFCK	–	
54	C2PO	–	
55	XROF	–	
56	MNT3	–	
57	MNT1	–	
58	MNT0	–	
59	FSTT	–	
60	C4MR	–	
61	DOUT	O	Digital out terminal.
62	EMPH	O	H output when a playback disc is emphasised. L output when no emphasis.
63	EMPHI	I	De-emphasis control input. (H : ON, L : OFF)
64	WFCK	O	WFCK (Write Frame Clock) output.
65	ZEROL	–	Not used
66	ZEROR	–	Not used
67, 79, 80	DTS1 ~ 3	–	GND
69	NLPWM	O	L-ch PWM output. (opposite phase)
70	LPWM	O	L-ch PWM output. (in-phase)
73	XTAI	I	33.8688 MHz X'tal oscillation circuit input.
74	XTAO	O	33.8688 MHz X'tal oscillation circuit output.
77	NRPWM	O	R-ch PWM output. (opposite phase)
78	RPWM	O	R-ch PWM output. (in-phase)

LC7073M (RDS DATA PROCESS)



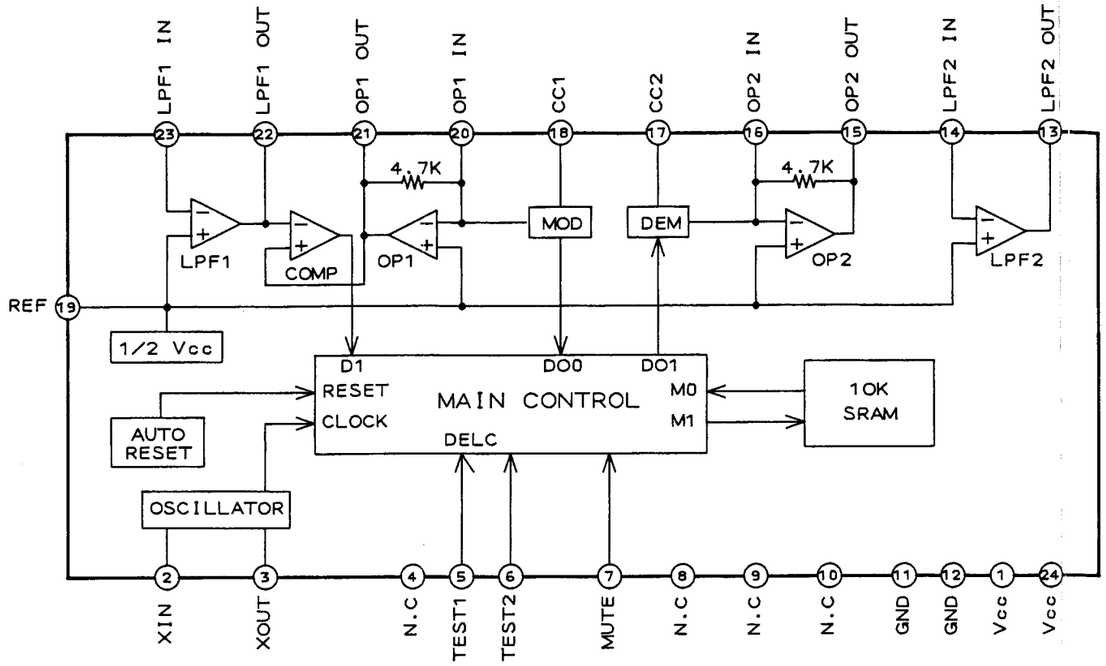
M38197MA-148/149FP (SYSTEM CONTROL MI-COM)

Pin No	PORT NAME	I/O	FUNCTION
1	PLL CLK	O	PLL clock signal output to the TUNER UNIT.
2	MAIN VR1	I	2 bit encoder input for electric volume control.
3	MAIN VR2		
4	PULSE 1	I	TAPE 1 reel pulse input.
5	PULSE 2	I	TAPE 2 reel pulse input.
6	LEVEL S	I	A/D input for surround level meter.
7	LEVEL C	I	A/D input for center level meter.
8	SPANA	I	A/D input for spectrum analyzer indication.
9	CLK LED	O	Clock output for LED section expansion IC.
10	PLL OUT	O	PLL control output to the TUNER UNIT.
11	STB FLD	O	Strobe pulse output to DOLBY PRO-LOGIC FLD drive IC.
12	CLK FLD	O	Clock output to DOLBY PRO-LOGIC FLD drive IC.
13	DATA FLD	O	Data output to DOLBY PRO-LOGIC FLD drive IC.
14	PHOTO IN	I	Input from the TRAY rotation position detect photo sensor.
15	CD XLAT	O	Latch output for the CD MI-COM.
16	CD CLK	O	Serial clock output to the CD MI-COM.
17	CD DATA	O	Serial data output to the CD MI-COM.
18	MODE SW	I	A/D input from the CD's open, close and clamp switches.
19	CLK TCDK	O	Clock output for controlling the expansion IC of the TUNER/CD/DECK section.
20	CD SQCK	O	SQCK clock output to the CD MI-COM.
21,85	N.C	–	No connection.
22	CD SQSO	I	SUBQ 80 bits serial input.
23	DATA DSC	O	Serial data output for controlling the DIGITAL SOUND CONTROL IC.
24	DATA	O	Serial data output to the expansion ICs (for KEY control & EVR ICs, etc.).
25	OSC PWM	O	Erasing OSC level control output.(PWM)
26	BOP	I	Blank output pulse input. (L : blank)
27	E²PR DAT	I/O	EEP ROM serial data input/output.
28	E²PR CLK	O	Serial clock output to EEP ROM.
29	CD SENS	I	Input pin for reading verious data from the CD MI-COM.
30	R CLK	I	Clock input from RDS data processor.
31	CLK DSC	O	Clock output to the DIGITAL SOUND CONTROLLOR.
32	REMOCON	I	Remote control signal input.
33	CLK AMP	O	Clock output to the expansion ICs (EVR, Key control, etc. among the PRE/MAIN AMP section).
34	CD SCOR	I	Sub code detect input from the CD MI-COM. (H : sub code 0 or 1 is detected)
35	RESET	I	Reset input
36	XC IN	I	32.768 kHz X'tal input for clock.
37	XC OUT	O	Output to the 32.768 kHz X'tal.
38	X IN	I	8.0 MHz X'tal input.
39	X OUT	O	Output to the 8.0 MHz X'tal.
40	GND-D	–	Digital ground.
41 - 44	KEY1 - 4	I	Key matrix input from the operation switches.
45 - 60	DIG 1 - 16	O	System FLD's grid drive output.
61 - 80	SEG 1 - 20	O	System FLD's segment drive output. (SEG 17~20 : 700 series models only)
81	POW DOWN	I	Back up voltage detection input. (H : normal, L : Power down)
82	STB AMP	O	Strobe pulse output for AMP section expansion IC.
83	OE	O	Output enable control for expansion ICs. (L : enable, H : expansion IC output → high impedance).
84	STB VR	O	Strobe pulse output for EVR (electric volume) IC.
86	STB TCDK	O	Strobe pulse output for TUNER/DECK/CD section expansion ICs.
87	STB PRE	O	Strobe pulse output for PRE AMP section expansion IC.
88	STB MEC	O	Strobe pulse output for DECK MECHA. section expansion IC.
89	R DATA	I	Data input from RDS data processor.
90	R START	I	Start signal input from RDS data processor.
91	VCC	–	+5 V power supply.
92	R RESET	O	Reset output to RDS error correction IC. (L : reset)
93	STEREO	I	A/D input for the "STEREO" indicator.
94	TUNED	I	A/D input for the "TUNED" indicator.
95	STB LED	O	Strobe pulse output for LED section expansion IC.
96	PLL IN	I	PLL control input from the tuner unit.
97	PLL CE	O	PLL chip enable output to the tuner unit.
98	–VP	I	Negative power supply for FLD blanking.
99	VSS	–	To be grounded.
100	VREF	I	Reference voltage input. (+5 V)

M62422FP (SOUND CONTROLLER)

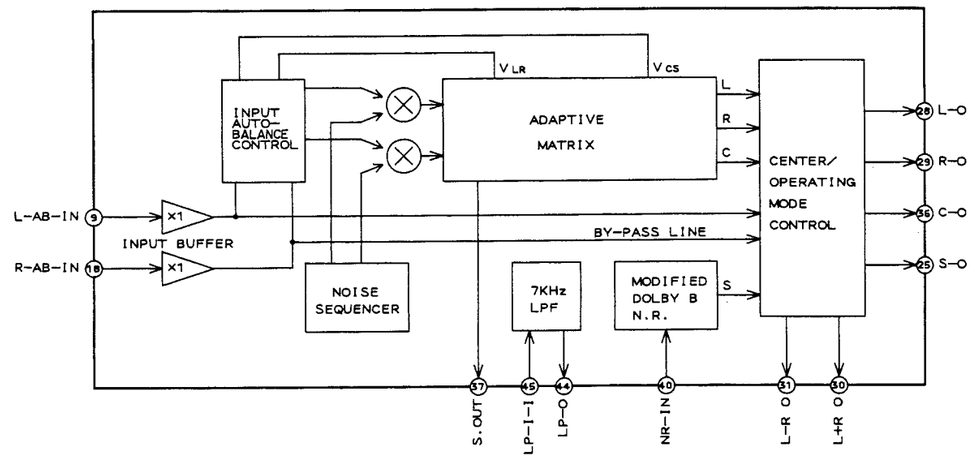
Pin No	PORT NAME	I/O	FUNCTION
1	CLOCK	I	Clock signal input pin for data transmission.
2	DATA	I	Control data input pin.
3	DVDD	–	Power supply for internal logic circuit.
4	VCUT	–	Capacitor connecting pin for vocal cut.
5	SUROUT	O	This pin outputs surround (L-R or L+R) signal and vocal cut signal.
6	IN1	I	Channel 1 input pin.
7	KEYCON1	O	Output pin to the key control circuit.
8	MIC IN1	I	Mic signal input pin during KARAOKE function.
9	INBASS1	I	BASS resonant bufferring AMP input pin.
10	NFBASS1	O	BASS resonant bufferring AMP output pin.
11	FBASS1	–	BASS BPF (resonant AMP) connecting pin.
12	INMID1	I	MID resonant bufferring AMP input pin.
13	NFMID1	O	MID resonant bufferring AMP output pin.
14	FMID1	–	MID BPF (resonant AMP) connecting pin.
15	FTRE1	–	TREBLE BPF connecting pin.
16	REC OUT1	O	Channel 1 REC OUT pin.
17	FBB1	I	BASS boost BPF (resonant AMP) connecting pin.
18	NFBB1	O	BASS boost resonant bufferring AMP output pin.
19	INBB1	I	BASS boost resonant bufferring AMP input pin.
20	OUT1	O	Channe 1 output pin.
21	AGND	–	Internal analog circuit grounding pin.
22	AVss	–	Negative power supply pin for internal analog circuit.
23	OUT2	O	Channe 2 output pin.
24	INBB2	I	BASS boost resonant bufferring AMP input pin.
25	NFBB2	O	BASS boost resonant bufferring AMP output pin.
26	FBB2	–	BASS boost BPF (resonant AMP) connecting pin.
27	REC OUT2	O	Channel 2 REC OUT pin.
28	FTRE2	–	TREBLE BPF connecting pin.
29	FMID2	–	MID BPF (resonant AMP) connecting pin.
30	NFMID2	O	MID resonant bufferring AMP output pin.
31	INMID2	I	MID resonant bufferring AMP input pin.
32	FBASS2	–	BASS BPF (resonant AMP) connecting pin.
33	NFBASS2	O	BASS resonant bufferring AMP output pin.
34	INBASS2	I	BASS resonant bufferring AMP input pin.
35	MIC IN2	I	Mic signal input pin during KARAOKE function.
36	KEYCON2	O	Output pin to the key control circuit.
37	IN2	I	Channel 2 input pin.
38	SUR R	–	Time constant setting capacitor connectig pin for the surround circuit.
39	SUR C	–	Time constant setting capacitor connectig pin for the surround circuit.
40	AVDD	–	Positive power supply pin for internal analog circuit.
41	DGND	–	Internal logic circuit grounding pin.
42	N.C	–	No connection.

M65843AFP (DIGITAL ECHO)



PIN No.	PORT NAME	I/O	FUNCTION
1	VDD	–	+5 V power supply for digital section.
2	X IN	I	X'tal OSC input.
3	X OUT	–	X'tal OSC output.
4	NC	–	No connection.
5	TEST 1	I	Test pin (fixed H in the normal condition).
6	TEST 2	I	Test pin (fixed L in the normal condition).
7	MUTE	I	Mute control input (L : mute).
8 ~ 10	NC	–	No connection.
11	D.GND	–	Digital ground.
12	A.GND	–	Analog ground.
13	LPF2 OUT	O	Constructs the output side low pass filter from the externally connected capacitor & resistor.
14	LPF2 IN	I	
15	OP2 OUT	O	Constructs the integrator for demodulation from the externally connected capacitor & resistor.
16	OP2 IN	I	
17	CC2	–	Current control for demodulator ADM control.
18	CC1	–	Current control for modulator ADM control.
19	REF	–	Analog reference voltage (1/2 Vcc).
20	OP1 IN	I	Constructs the integrator for modulation from the externally connected capacitor & resistor.
21	OP1 OUT	O	
22	LPF1 OUT	O	Constructs the input side low pass filter from the externally connected capacitor & resistor.
23	LPF1 IN	I	
24	Vcc	–	+5 V analog power supply.

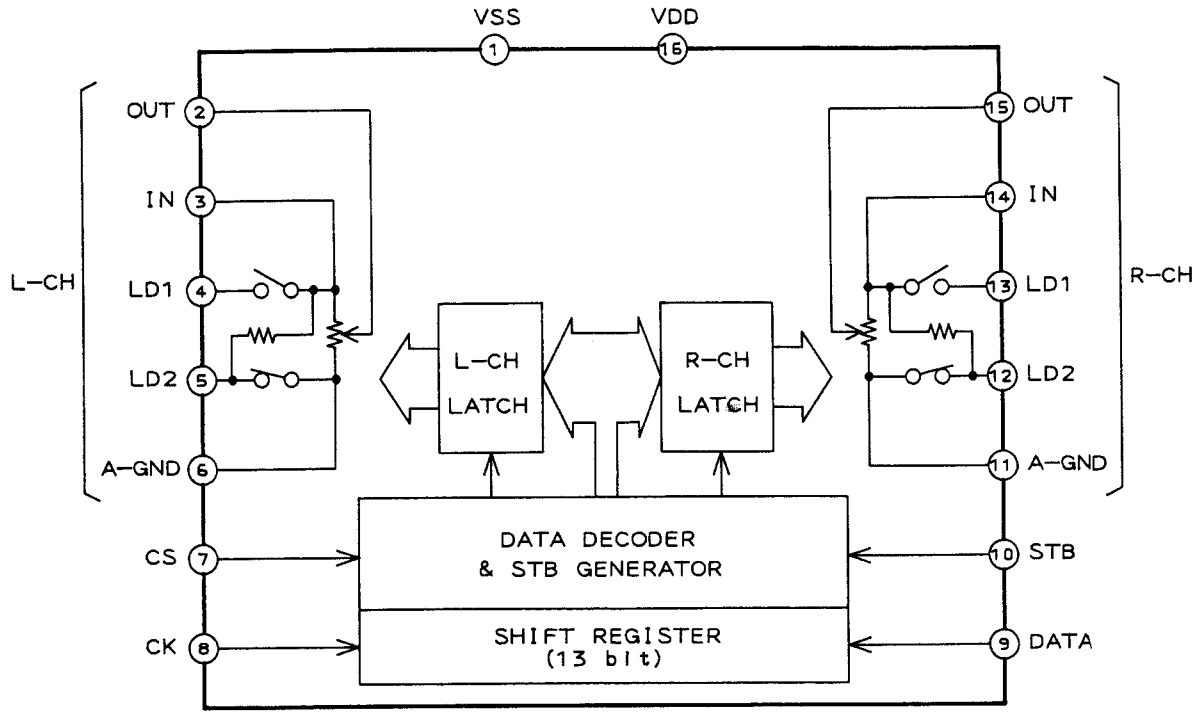
NJM2177A FB3 (DOLBY PRO LOGIC SURROUND DECODER)



SAA6579T (RDS DEMODULATOR)

PIN No	PORT NAME	I/O	FUNCTION
1	QUAL	O	QUALITY INDICATION OUTPUT
2	RDDA	O	RDS DATA OUTPUT
3	VREF	—	REFERENCE VOLTAGE OUTPUT
4	MUX	I	MULTIPLEX SIGNAL INPUT
5	VDD	—	+5 V SUPPLY VOLTAGE FOR ANALOG PART
6	VSS	—	GND FOR ANALOG PART
7	CIN	I	SUBCARRIER INPUT TO COMPARATOR
8	SCOUT	O	SUBCARRIER OUTPUT OF RECONSTRUCTION FILTER
9	MODE	I	OSCILLATOR MODE / TEST CONTROL INPUT
10	TEST	I	TEST ENABLE INPUT
11	VSS	—	GND FOR DIGITAL PART
12	VDD	—	+5 V SUPPLY VOLTAGE FOR DIGITAL PART
13	OSC1	I	OSCILLATOR INPUT
14	OSC0	O	OSCILLATOR OUTPUT
15	T57	O	57 kHz CLOCK SIGNAL OUTPUT
16	RDCL	O	RDS CLOCK OUTPUT

TC9260P (ELECTRIC VOLUME CONTROL)



TC9412P (ELECTRIC VOLUME CONTROL)